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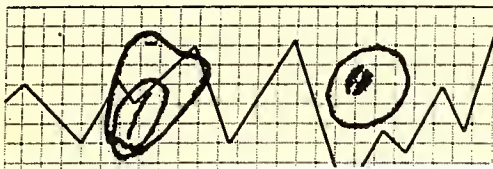
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2002 - No. 1

which is/are unavailable.

Supplies Reported in January

part of the corn picture. Year ending stocks of U.S. corn will be smaller than stocks at the beginning of the year. U.S. corn acreage likely will increase in 2002 in response to lower costs of some inputs and the higher price of corn being reflected in new crop futures. The USDA's *Prospective Plantings* report, to be released on March 28, 2002 could be important for price direction.

Corn prices have been in a relatively narrow range so far in the 2001-02 marketing year. The average cash price in central Illinois reached a harvest low of \$1.795 on October 15 and traded to a high of \$2.00 on December 4. The average is currently near \$1.95. That narrow trading range is likely to persist through February, but prices are likely to become more volatile beginning in March. Planting time weather and acreage prospects will be the primary price movers. Historical price patterns suggest that May and June offer the best opportunity for higher cash prices.

A's annual *Crop Production* released on January 11, 2002 the final estimate of the size of U.S. corn harvest. The crop totaled at 9.507 billion bushels, 39 million below the November 2001 forecast (Table 1). The U.S. average yield was estimated at 138.2 bushels per acre, 0.2 bushels above the November forecast, 1.3 bushels above the revised estimate for the 2000 crop, and only 0.4 bushels below the 1994 record average yield (Table 2). The smaller crop estimate reflected a significant reduction in the estimate of 2001 corn acreage. Planted acreage of corn in 2001 totaled only 75.752 million acres, 3.8 million less than planted in 2000 and the smallest planted acreage since 1995, the last year for an acreage reduction program (Table 3). The reduction in corn acreage was fairly widespread, geographically, with only Indiana planting more corn than in 2000 (Table 4).

Corn acreage harvested for grain in 2001 totaled only 68.808 million, 3.932 million less than harvested in 2000 and the least since 1995. Harvested acreage of corn was 383,000 acres less than forecast in November. The largest decline, 150,000 acres, came in Nebraska.



Grain Price OUTLOOK

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CORN: WILL ACREAGE REBOUND IN 2002

JANUARY 2002

Darrel Good

2002 - No. 1

Summary

The USDA's *Crop Production* and *Grain Stocks* reports released on January 11 reflected a smaller domestic supply of corn and a more rapid pace of domestic consumption. The relatively slow pace of exports continues to be the most negative part of the corn picture. Year ending stocks of U.S. corn will be smaller than stocks at the beginning of the year. U.S. corn acreage likely will increase in 2002 in response to lower costs of some inputs and the higher price of corn being reflected in new crop futures. The USDA's *Prospective Plantings* report, to be released on March 28, 2002 could be important for price direction.

Corn prices have been in a relatively narrow range so far in the 2001-02 marketing year. The average cash price in central Illinois reached a harvest low of \$1.795 on October 15 and traded to a high of \$2.00 on December 4. The average is currently near \$1.95. That narrow trading range is likely to persist through February, but prices are likely to become more volatile beginning in March. Planting time weather and acreage prospects will be the primary price movers. Historical price patterns suggest that May and June offer the best opportunity for higher cash prices.

Smaller Supplies Reported in January

The USDA's annual *Crop Production* report released on January 11, 2002 contained the final estimate of the size of the 2001 U.S. corn harvest. The crop was estimated at 9.507 billion bushels, 39 million below the November 2001 forecast (Table 1). The U.S. average yield was estimated at 138.2 bushels per acre, 0.2 bushels above the November forecast, 1.3 bushels above the revised estimate for the 2000 crop, and only 0.4 bushels below the 1994 record average yield (Table 2). The smaller crop estimate reflected a significant reduction in the estimate of 2001 corn acreage. Planted acreage of corn in 2001 totaled only 75.752 million acres, 3.8 million less than planted in 2000 and the smallest planted acreage since 1995, the last year for an acreage reduction program (Table 3). The reduction in corn acreage was fairly widespread, geographically, with only Indiana planting more corn than in 2000 (Table 4).

Corn acreage harvested for grain in 2001 totaled only 68.808 million, 3.932 million less than harvested in 2000 and the least since 1995. Harvested acreage of corn was 383,000 acres less than forecast in November. The largest decline, 150,000 acres, came in Nebraska.

Stocks of corn in the U.S. on December 1, 2001 were estimated at 8.264 billion bushels, 266 million less than stocks on the same date last year, but the second largest inventory for that date in 14 years (Table 5). The stocks figure implies that 3.144 billion bushels of U.S. corn were consumed during the first quarter of the 2001-02 marketing year, 40 million more than during the first quarter last year and only 38 million less than the record use of two years ago. The Census Bureau reports that 451 million bushels of corn were exported during the quarter, 55 million less than during the same quarter last year. The USDA estimates that 489 million bushels of corn were used for seed, food, and industrial purposes, 23 million more than during the same quarter last year. The increase is being led by ethanol production. Based on monthly ethanol production estimates from the Department of Energy, the USDA estimates that corn use for ethanol production totaled 165.5 million bushels in the first quarter of the marketing year, an increase of 16 percent from use during the same quarter last year.

Feed and residual use of corn during the first quarter of the marketing year totaled 2.204 billion bushels, 72 million more than during the same quarter last year and 15 million above the record use of two years ago. The estimate of feed and residual use during the first quarter of the 2000-01 marketing year was reduced by 62 million bushels as a result of the 53 million bushel reduction in the estimated size of the 2000 crop.

Domestic Use to Expand

Based on the rapid pace of domestic use of corn reported for the first quarter of the

2001-02 marketing year, the USDA increased the projection of domestic use for the year. Food, seed, and industrial use of corn is now projected at 2.045 billion bushels, 15 million above the December projection and 78 million more than used last year. That projection is based on a 10 percent increase in expected production of fuel alcohol. Given the 16 percent increase in the first quarter, the projection may still be a little low. We are bumping that projection up to 2.05 billion bushels (Table 6). Feed and residual use of corn for the current marketing year is projected at 5.85 billion bushels, only 14 million bushels more than used last year, but 50 million more than projected last month. The increase in expected use reflects a modest increase in the number of grain consuming animal units (less dairy and beef, more poultry, and about the same amount of pork) and slightly less consumption of the other feed grains (sorghum, oats, and barley). The projection of 5.85 billion bushels implies that feed and residual use of corn during the last three quarters of the marketing year will be about 58 million bushels less than during the same three quarters last year, since use during the first quarter was up 72 million. The expected decline in number of cattle placed on feed is occurring. The most uncertainty centers around hog numbers over the next 7 months. We expect that feed and residual use could be slightly larger than the USDA projection.

Export Prospects

Corn exports during the first quarter of the 2001-02 marketing year were nearly 11 percent less than during the same quarter last year. Recently, the pace of

exports has accelerated so that by January 17 the USDA's weekly export inspection report showed shipments lagging last year's pace by only 8.6 percent. For the year, the USDA expects exports to reach 1.975 billion bushels, about 2 percent more than shipped last year. Shipments are lagging last year's pace to four of the five largest buyers of U.S. corn (Japan, South Korea, Egypt, and Mexico). Shipments to Taiwan are running at about the same pace as last year.

As of January 10, the U.S. had sold about 280 million bushels of corn which had not yet been shipped. These outstanding sales are about 46 million bushels larger than on the same date last year. The increase reflects outstanding sales of 35 million bushels to China, compared to no sales last year. To reach the USDA projection, shipments of U.S. corn will need to increase from the 33 million per week average experienced so far this year to just over 40 million per week. Shipments during the last 32 weeks of the year will need to be nearly 100 million bushels larger than during the same period last year. U.S. exports are expected to be boosted by less competition from China and Argentina over the next seven months. The nearly 160 million bushel reduction in the size of the Argentine corn crop is expected to lead to a 140 million bushel reduction in exports during the current marketing year. The biggest hurdle to increased U.S. exports is the general slow down in world corn trade, led by reduced imports by Japan. Still, exports may be slightly larger than the USDA projection.

Based on the current projections of use, year ending stocks of corn in the U.S. are

projected at 1.511 billion bushels (Table 6), 35 million less than projected by the USDA.

2002 Production Prospects

U.S. stocks of corn are expected to be at a four year low by the end of the current marketing year. Stocks are expected to total only about 15.3 percent of total projected use for the year. On a world basis, corn inventories are also on the decline, primarily in China. Stocks of wheat and all coarse grains are also on the decline. This tightening of inventories has not yet forced any rationing of consumption, so that prices still remain low for corn and modest for wheat. However, the smaller inventories mean that the size of next year's crops takes on a little more importance.

U.S. corn acreage has fluctuated in a 4.4 million acre range under current policy that was implemented in 1996 (Table 3). Acreage in 2001 was at the low end of the range. Under the scenario of no increase in acreage, constant yields in 2002, and steady consumption during the 2002-03 marketing year, stocks of corn would be reduced to about 1.12 billion bushels by the end of the 2002-03 marketing year. Some increase in acreage is necessary in 2002 to offset some of the risk of below-average yields.

The decline in corn acres in 2001 came within the context of a general decline in cropland acres. The area planted to principal crops, other than hay, in 2001 was down by just over 7 million acres. Combined acreage of feed grains, wheat, and soybeans was down 6.7 million acres, led by declines in corn and wheat. Sorghum acreage was up about 1.06

million. Including the acreage of hay, harvested acreage of principal crops declined by 3.7 million (1.2 percent) in 2001. Acreage was down the most in Minnesota and North Dakota, perhaps reflecting prevented plantings due to adverse weather. Those two states reduced corn plantings by a combined 600,000 acres.

With a normal planting season and reduced input costs, it seems likely that U.S. planted acreage of corn will increase in 2002. The increase may also be stimulated by somewhat higher prices being offered for the 2002 crop and by concerns that the CCC loan rate for soybeans could be lowered. Reduced acreage of winter wheat in the eastern corn belt and in Kansas also opens the door for increased acreage of spring planted crops. A rebound to 79 million acres of corn seems likely in 2002. With harvested acreage for grain at 72.1 million and an average yield of 139 bushels per acre, the 2002 crop would approach 10 billion bushels. The USDA's March 28 *Prospective Plantings* report will give the first indication of 2002 corn acreage.

Price Prospects

Corn prices have traded in a relatively narrow range so far in the 2001-02 marketing year, particularly since October 1, 2001. From October 1, 2001 through January 23, 2002, March 2002 corn futures had a closing range of about \$.20. The average cash price of corn in central Illinois was at \$2.03 on September 13, declined to a harvest low of \$1.795 on October 15, 2001, rebounded to \$2.00 on

December 4 and then traded in the \$1.90s through January 23. The average price from September 4 through January 23 was \$1.91, about \$.04 below the CCC loan rate. So far, prices have remained well above the extreme lows experienced during the previous four years. For the 1997-98 through 2000-01 marketing years, the lowest average cash price in central Illinois ranged from \$1.45 to \$1.665. The smaller harvest and prospects for reduced carryover stocks have been somewhat supportive to prices.

It is likely that prices will remain in a fairly narrow trading range for several more weeks. Typically, prices would be expected to become more volatile in the March through August period. The narrow trading range in cash prices, only \$.23 in central Illinois, so far this year would suggest that the most extreme prices have not yet been experienced. Over the past four seasons, the range in cash prices in central Illinois during the marketing year has been from \$.60 to \$1.10. That pattern is consistent with the pattern of the past thirty years. It is expected, that cash prices will establish a new marketing year high, a new low, or both, over the next several months. Higher prices would likely reflect concerns about growing season weather and/or a March *Prospective Plantings* report that showed intentions for only a modest increase in corn acreage in 2002. A new low price, if it occurs, would likely come in July or August on the basis of the prospects for a large harvest in 2002. For the year, corn prices are expected to average near \$2.00 per bushel, about \$.15 above the average of last year.

Marketing Strategies

For old crop corn, pricing decisions are partially a function of marketing loan decisions already made. For corn which is not under loan and for which the loan deficiency payment [LDP] has not been established, placing corn under loan may be a prudent strategy. With the cash price of corn currently very near the loan value, this is a low risk strategy, with only storage costs at risk. Holding the inventory outside of the loan is also low risk, since lower prices would be offset by a higher loan deficiency payment. The advantage of placing corn under loan is primarily cash flow.

For corn that is no longer eligible for marketing loan benefits (that is, LDP has already been established) there is some downside price risk. That risk may be acceptable over the next several weeks, until the weather and acreage picture becomes clearer. For those that are concerned about lower prices, buying put options on deferred futures may be a strategy to consider. With a relatively large carry in the market, deferred futures offer a good return on storage, while the put option would provide some protection from lower prices. A \$2.30 July put option with a \$.15 premium offers a minimum price of about \$1.95 to \$2.00 for corn delivered in June 2002. That is, the minimum price is about equal to the current price, so that only storage cost is at risk. The put option would allow the producer to participate in part of any price rally that took place before mid-June.

For new crop corn, the market is offering a price about \$.30 to \$.35 per bushel above the current price for old crop corn. That premium will not be maintained if a large crop materializes. December futures in the \$2.40 to \$2.50 range would offer an opportunity to start pricing that crop. Buying December put options might also be considered as a way to manage price risk. For those who are comfortable trading options, selling high strike price December call options could be added to the strategy. The call options would reduce the cost of establishing a minimum price, but would also establish a price cap.



Issued by Darrel Good
Extension Economist
University of Illinois

Table 1. United States Corn Production Estimates

	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001
	million bushels																				
July	7,116	...	...	...	...	...	...	5,200	...	...	...	...	...	...	...	...	...	...	...	...	...
August	7,735	8,315	5,237	7,668	8,266	8,316	7,231	4,479	7,348	7,850	7,418	8,762	7,423	9,214	8,122	8,695	9,278	9,592	9,561	10,369	9,266
September	7,940	8,319	4,390	7,552	8,469	8,268	7,141	4,462	7,321	8,118	7,295	8,770	7,229	9,257	7,832	8,804	9,268	9,738	9,381	10,362	9,238
October	8,081	8,315	4,259	7,498	8,603	8,220	7,139	4,553	7,449	8,022	7,479	8,938	6,962	9,602	7,541	9,012	9,312	9,743	9,467	10,192	9,430
November	8,097	8,330	4,121	7,527	8,717	8,223	7,166	4,671	7,590	7,935	7,479	9,329	6,503	10,010	7,374	9,265	9,359	9,836	9,537	10,054	9,546
January	8,201	8,397	4,204	7,656	8,865	8,253	7,064	4,921	7,527	7,933	7,474	9,479	6,344	10,103	7,374	9,293	9,366	9,761	8,437	9,968	9,507
FINAL	8,119	8,235	4,174	7,672	8,875	8,226	7,131	4,929	7,532	7,934	7,475	9,477	6,338	10,061	7,400	9,233	9,207	9,759	9,431	9,915	9,915

Table 2. United States Corn Yield Estimates

Table 2. United States Corn Yield Estimates																											
	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001
	bushels per acre																										
July 1	93.0	90.5	89.4	90.1	95.8	99.3	95.9	...	...	...	...	...	...	87.0													
August 1	87.4	86.7	87.3	96.1	102.1	93.0	104.3	113.9	99.9	107.9	110.6	120.4	121.4	78.5	112.8	117.7	107.8	121.3	118.0	126.4	125.6	118.7	125.3	130.0	134.7	141.9	133.9
September 1	85.1	82.8	89.7	100.3	104.6	91.8	107.1	113.9	85.1	106.3	113.3	119.7	119.9	78.5	112.4	121.7	106.1	121.4	113.1	129.0	121.1	120.2	125.2	132.0	132.2	141.8	133.5
October 1	86.2	82.7	90.8	100.7	106.4	90.8	109.0	114.2	82.9	105.5	115.1	119.2	119.9	80.2	114.4	120.3	108.8	123.8	110.3	133.8	118.8	123.0	125.8	132.0	133.5	139.6	136.3
November 1	87.2	85.5	91.5	101.2	109.2	90.8	109.2	114.2	80.5	105.9	116.8	119.3	120.3	82.3	118.8	119.0	108.6	129.3	103.1	138.4	113.7	126.5	126.4	133.3	134.5	137.7	138.0
January 1	86.2	87.4	90.8	101.2	109.4	91.0	109.9	114.8	81.8	106.6	118.0	119.3	119.4	84.6	116.2	118.5	108.6	131.4	100.7	138.6	113.5	127.1	127.0	134.4	133.8	137.1	138.2
FINAL	86.4	88.0	90.8	101.0	109.5	91.0	108.9	113.2	81.1	106.7	118.0	119.3	119.8	84.6	118.3	118.5	108.6	131.5	100.7	138.6	113.5	127.1	126.7	134.4	133.8	138.9	

Table 3. United States Corn Planting Intentions, Actual Plantings, and Acres Harvested

Year	Planted Acreage			Actual	Harvested Acreage
	February/January Intentions	March Intentions	June Intentions		
			thousand acres		
1976	80,822	82,727	84,092	84,588	71,506
1977	84,526	83,923	82,735	84,328	71,614
1978	80,944	80,237	78,717	81,675	71,930
1979	80,676	79,209	79,751	81,394	72,400
1980	83,131	82,022	83,478	84,043	72,961
1981	...	83,977	84,677	84,097	74,524
1982	...	84,735	82,129	81,857	72,719
1983	69,569 ^a	58,812	60,129	60,217	51,479
1984	...	81,766	79,940	80,617	71,897
1985	...	82,021	83,217	83,398	75,209
1986	...	78,066	76,646	76,580	68,907
1987	...	67,556	66,024	66,200	59,505
1988	...	66,926	67,519	67,717	58,250
1989	...	73,253	72,790	72,322	64,783
1990	...	74,804	74,574	74,166	66,952
1991	77,500	76,124	75,909	75,957	68,822
1992		79,007	79,335	79,311	72,077
1993		76,486	74,259	73,239	62,933
1994		78,625	78,767	78,921	72,514
1995		75,323	72,800	71,479	65,210
1996		79,920	80,355	79,229	72,644
1997		81,416	80,227	79,537	72,671
1998		80,781	80,798	80,165	72,589
1999		78,219	77,611	77,386	70,487
2000		77,881	79,579	79,551	72,740
2001		76,693	76,109	75,752	68,808

^a February

Table 4. Planted Acreage of Corn by State

State	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001
	thousand acres											
Georgia	660	600	750	650	600	400	580	550	500	350	360	265
Illinois	10,600	11,200	11,200	10,590	11,600	10,200	11,000	11,200	10,600	10,800	11,200	11,000
Indiana	5,600	5,700	6,100	5,550	6,100	5,400	5,600	5,900	5,800	5,800	5,700	5,800
Iowa	12,800	12,500	13,200	12,000	13,000	11,700	12,700	12,200	12,500	12,100	12,300	11,700
Kansas	1,600	1,800	1,850	2,000	2,280	2,150	2,500	2,750	3,000	3,150	3,450	3,450
Kentucky	1,350	1,400	1,420	1,370	1,350	1,280	1,300	1,270	1,300	1,320	1,330	1,200
Michigan	2,400	2,600	2,700	2,500	2,550	2,450	2,650	2,500	2,300	2,200	2,200	2,200
Minnesota	6,700	6,600	7,200	6,300	7,000	6,700	7,500	7,000	7,300	7,100	7,200	6,800
Missouri	2,100	2,300	2,500	2,200	2,400	1,650	2,750	2,700	2,650	2,650	2,850	2,700
Nebraska	7,700	8,200	8,300	8,000	8,600	8,000	8,500	8,900	8,800	8,600	8,500	8,100
North Carolina	1,200	1,050	1,150	1,000	1,000	800	1,000	960	860	750	730	700
Ohio	3,700	3,700	3,800	3,500	3,700	3,300	2,900	3,800	3,550	3,450	3,550	3,400
Pennsylvania	1,380	1,400	1,380	1,370	1,400	1,380	1,450	1,550	1,550	1,500	1,550	1,500
South Dakota	3,400	3,750	3,800	3,350	3,800	2,800	4,000	3,800	3,900	3,600	4,300	3,800
Tennessee	620	620	740	660	670	640	770	700	700	630	650	630
Texas	1,650	1,700	1,750	2,000	2,150	2,100	2,100	2,000	2,400	1,950	2,100	1,600
Wisconsin	3,700	3,800	3,900	3,400	3,750	3,650	3,900	3,850	3,700	3,600	3,500	3,400
United States	74,171	75,951	79,325	73,323	79,158	71,245	79,487	79,537	80,165	77,386	79,551	75,752

Table 5. Corn Quarterly Balance Sheet

	1981-82	1982-83	1983-84	1984-85	1985-86	1986-87	1987-88	1988-89	1989-90	1990-91	1991-92	1992-93	1993-94	1994-95	1995-96	1996-97	1997-98	1998-99	1999-00	2000-01	2001-02
	million bushels																				
September 1 stocks	1,392	2,537	3,523	1,006	1,648	4,040	4,882	4,259	1,930	1,344	1,521	1,100	2,113	850	1,558	426	883	1,308	1,787	1,718	1,899
Production	8,119	8,235	4,174	7,672	8,875	8,226	7,131	4,929	7,532	7,934	7,475	9,477	6,338	10,051	7,400	9,233	9,207	9,759	9,431	9,915	9,507
TOTAL ^a	9,511	10,772	7,699	8,680	10,534	12,267	12,016	9,191	9,464	9,282	9,016	10,584	8,472	10,910	8,974	9,672	10,099	11,085	11,232	11,639	11,416
September-November																					
Seed, food, ind.	173	208	227	244	276	295	296	302	312	338	361	370	383	410	417	388	435	450	459	466	489
Export	519	443	493	503	415	318	396	471	582	383	421	488	435	449	660	487	380	450	534	506	451
Feed, residual	1,218	1,215	1,326	1,301	1,219	1,348	1,551	1,344	1,487	1,619	1,673	1,814	1,701	1,963	1,778	1,885	2,030	2,118	2,189	2,132	2,204
TOTAL	1,910	1,866	2,046	2,048	1,910	1,961	2,243	2,117	2,381	2,339	2,455	2,672	2,519	2,822	2,856	2,759	2,845	3,018	3,182	3,104	3,144
December 1 stocks	7,601	8,906	5,652	6,631	8,615	10,305	9,771	7,072	7,082	6,940	6,547	7,906	5,937	8,080	6,106	6,903	7,247	8,052	8,039	8,530	8,264
Seed, food, ind.	166	192	212	236	262	281	288	301	313	330	362	365	379	410	405	400	425	434	447	465	
Export	470	510	506	580	460	313	405	502	682	471	362	463	330	590	562	525	380	465	468	416	
Feed, residual	1,199	1,305	1,069	1,192	1,306	1,463	1,444	1,065	1,276	1,351	1,267	1,401	1,240	1,492	1,344	1,486	1,503	1,460	1,526	1,607	
TOTAL	1,835	2,007	1,787	2,008	2,028	2,057	2,137	1,868	2,271	2,152	1,991	2,229	1,949	2,493	2,311	2,411	2,308	2,359	2,441	2,488	
March 1 stocks	5,766	6,899	3,865	4,623	6,587	8,248	7,636	5,204	4,812	4,789	4,561	5,678	3,996	5,592	3,800	4,494	4,940	5,698	5,602	6,043	
Seed, food, ind.	201	228	253	294	307	333	337	353	376	384	414	414	423	452	433	471	470	495	512	524	
Export	596	475	513	475	201	496	510	592	601	454	371	411	270	568	610	433	350	497	451	456	
Feed, residual	1,089	1,272	954	1,019	1,091	1,088	951	841	993	960	1,042	1,146	950	1,159	1,044	1,097	1,084	1,097	1,059	1,142	
TOTAL	1,886	1,975	1,720	1,788	1,599	1,917	1,798	1,786	1,970	1,798	1,828	1,971	1,642	2,180	2,087	2,001	1,904	2,089	2,022	2,122	
June 1 stocks	3,880	4,924	2,145	2,836	4,990	6,332	5,839	3,419	2,843	2,992	2,739	3,709	2,360	3,415	1,718	2,497	3,040	3,616	3,586	3,924	
Seed, food, ind.	193	227	238	293	307	324	331	341	369	374	396	407	429	442	373	460	475	467	495	512	
Export	412	393	374	292	151	365	406	463	503	419	430	301	293	570	396	353	394	569	484	559	
Feed, residual	739	781	527	603	499	761	843	685	627	679	816	891	789	846	527	809	865	795	890	955	
TOTAL	1,344	1,401	1,139	1,188	957	1,450	1,580	1,489	1,499	1,472	1,642	1,599	1,511	1,858	1,295	1,617	1,734	1,831	1,869	2,025	
September 1 stocks	2,537	3,523	1,006	1,648	4,040	4,882	4,259	1,930	1,344	1,521	1,100	2,113	850	1,558	426	883	1,308	1,787	1,718	1,899	
Annual																					
Seed, food, ind.	733	855	930	1,067	1,152	1,233	1,251	1,298	1,370	1,425	1,533	1,556	1,613	1,715	1,628	1,714	1,805	1,846	1,913	1,967	
Export	1,997	1,821	1,887	1,850	1,227	1,492	1,716	2,029	2,367	1,727	1,584	1,663	1,328	2,177	2,228	1,797	1,504	1,981	1,937	1,937	
Feed, residual	4,245	4,573	3,876	4,115	4,114	4,660	4,789	3,934	4,382	4,609	4,798	5,252	4,680	5,460	4,693	5,277	5,482	5,471	5,664	5,836	
TOTAL	6,975	7,249	6,693	7,032	6,494	7,385	7,757	7,260	8,120	7,761	7,916	8,471	7,622	9,352	8,548	8,789	8,791	9,298	9,524	9,740	

^a Includes imports for the entire year.

Table 6. Corn Annual Balance Sheet

	1989-90	1990-91	1991-92	1992-93	1993-94	1994-95	1995-96	1996-97	1997-98	1998-99	1999-00	2000-01	2001-02 ^a
	million bushels												
Carryin	1,930	1,344	1,521	1,100	2,113	850	1,558	426	883	1,308	1,787	1,718	1,899
Production	<u>7,532</u>	<u>7,934</u>	<u>7,475</u>	<u>9,477</u>	<u>6,338</u>	<u>10,051</u>	<u>7,400</u>	<u>9,233</u>	<u>9,207</u>	<u>9,759</u>	<u>9,431</u>	<u>9,915</u>	<u>9,507</u>
TOTAL ^b	9,464	9,282	9,016	10,584	8,472	10,910	8,974	9,672	10,099	11,085	11,232	11,659	11,416
Seed, food, industrial	1,370	1,425	1,533	1,556	1,613	1,715	1,628	1,714	1,805	1,846	1,913	1,967	2,050
Export	2,367	1,727	1,584	1,663	1,328	2,177	2,228	1,797	1,504	1,981	1,937	1,937	1,985
Feed and residual	<u>4,382</u>	<u>4,609</u>	<u>4,798</u>	<u>5,252</u>	<u>4,680</u>	<u>5,460</u>	<u>4,693</u>	<u>5,277</u>	<u>5,482</u>	<u>5,471</u>	<u>5,664</u>	<u>5,836</u>	<u>5,870</u>
TOTAL	8,120	7,761	7,915	8,471	7,621	9,352	8,548	8,789	8,791	9,298	9,515	9,741	9,905
Carryout	1,344	1,521	1,100	2,113	850	1,558	426	883	1,308	1,787	1,718	1,899	1,511
U.S. average price	\$2.36	\$2.28	\$2.37	\$2.07	\$2.50	\$2.26	\$3.24	\$2.71	\$2.45	\$1.94	\$1.82	\$1.85	\$2.00

^a Projected^b Includes imports

Table 7. World Coarse Grain Production

	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001
	million metric tons																		
United States	137.1	237.7	274.9	252.8	215.9	149.7	221.4	230.7	218.6	277.4	186.5	284.9	210.0	265.7	260.4	271.5	263.2	273.1	261.9
Former USSR	99.0	90.5	100.0	105.9	113.7	97.5	104.8	99.4	80.4	95.3	95.6	79.2	57.4	52.0	67.9	38.0	40.5	49.4	61.7
Western Europe	86.2	103.6	101.4	94.0	93.3	99.5	102.2	97.6	104.3	93.8	96.1	86.6	88.5	103.8	109.4	105.6	103.0	107.5	106.7
China	92.7	96.2	82.3	87.0	95.8	94.2	93.5	111.7	112.3	108.4	117.8	114.3	124.5	141.3	114.7	144.2	137.2	114.0	116.2
Eastern Europe	67.1	72.8	65.5	73.9	63.9	61.3	60.2	51.4	64.7	43.2	44.5	46.9	51.4	50.0	59.0	51.0	54.6	36.2	51.9
Canada	21.0	22.0	23.9	25.5	25.5	19.7	23.5	24.8	21.8	19.6	24.0	23.4	24.1	28.2	25.1	26.6	26.8	24.3	22.9
India	34.1	31.4	25.8	26.6	23.5	31.3	34.6	32.6	25.9	36.8	31.0	30.1	29.8	34.3	30.9	31.7	30.5	29.2	29.3
Brazil	21.5	22.5	21.7	27.3	25.4	26.7	22.5	24.4	31.4	29.9	33.8	38.2	33.2	36.6	31.3	33.5	32.6	42.6	37.1
Argentina	17.4	18.9	17.4	13.0	13.1	7.3	8.3	10.8	14.5	14.1	13.3	13.9	14.1	18.9	24.7	17.8	21.5	19.5	15.5
South Africa	5.1	9.0	8.9	7.9	7.9	13.0	9.5	8.9	3.6	10.7	14.0	5.4	11.0	10.7	8.2	8.1	11.1	7.9	9.4
World	685.4	814.1	843.3	835.2	791.5	731.2	802.6	819.5	804.2	869.1	799.9	873.6	802.9	908.3	883.2	890.1	876.6	856.0	870.5
Excluding the U.S.	548.3	576.4	568.4	582.4	575.7	581.5	581.2	588.8	585.6	591.7	613.4	588.7	592.9	642.6	622.8	618.4	613.5	582.9	608.7

Source: USDA, FAS, World Crop Production, January 2002 and earlier issues.

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AT URBANA-CHAMPAIGN

SOYBEANS: LOW PRICES TO PERSIST

JANUARY 2002

Darrel Good

2002 - No. 2

Summary

Soybean prices received some support from the USDA's January 11 final U.S. production estimate for the 2001 crop. At 2.891 billion bushels, the final estimate was 32 million bushels smaller than the November forecast. Prospects for larger crush and exports and smaller year-ending stocks than projected in December also helped stabilize prices. Dry weather and crop concerns in Argentina and southern Brazil have also provided fundamental support for soybean prices.

Generally ample supplies and prospects for large soybean acreage in the U.S. again in 2002 have kept prices at low levels. So far in the 2001-02 marketing year, the average cash price in central Illinois has ranged from \$3.985 (October 22) to \$4.715 (September 3). The high price came before harvest of the 2001 crop really got underway. The highest post-harvest price was \$4.40 (January 16). Without extreme weather concerns, prices are likely to remain well below the current CCC loan rate. Some increased volatility might be expected over the next several weeks as South American and U.S. weather becomes important for prospective supplies.

Record Supply and Consumption

On January 11, the USDA released the final production estimate for the 2001 U.S. soybean crop. At 2.891 billion bushels, the crop was 32 million bushels less than the November

forecast, but 133 million larger than the 2000 crop (Table 1). The U.S. average yield estimate was reported at 39.6 bushels per acre, 0.2 bushels above the November forecast, 1.5 bushels above the 2000 average, and 1.8 bushels below the 1994 record (Table 2). The smaller crop estimate reflected a significant reduction in the estimate of soybean acreage in 2001. Planted acreage totaled 74.105 million acres, 1.311 million less than reported in June 2001, and 2.552 million less than intentions reported in March 2001 (Table 3). Planted acreage was 161,000 less than planted in 2000, representing the first year over year decline since 1990. The decline in the harvested acreage estimate from November to January was geographically dispersed, although the estimate actually increased for Minnesota and South Dakota. Compared to planted acreage in 2000, soybean acreage in 2001 increased modestly in the midwest and declined in southern growing areas (Table 4). The largest decline, 450,000 acres, came in Arkansas.

The December 1 *Grain Stocks* report, also released on January 11, 2001, showed soybean inventories of 2.276 billion bushels, about 36 million more than the previous record inventory of a year ago (Table 5). The inventory estimate implies that about 867 million bushels of U.S. soybeans were consumed during the first quarter of the marketing year. Use was up 55 million bushels from the use during the same quarter last year and was about 40 million larger than

the record disappearance during the first quarter of the 1997-98 marketing year.

Based on Census Bureau reports, the domestic crush during the first quarter totaled 427.7 million bushels, 6.8 million more than crushed during the same quarter last year and one million more than the record crush of two years ago. The crush in December 2001 totaled nearly 153 million bushels, 10.7 million more than in December 2000. The crush continues to be driven by soybean meal demand as soybean oil remains in surplus. Domestic meal consumption is on the rise, reflecting the increase in livestock and poultry numbers. However, the rate of increase is more modest than experienced last year as hog numbers have stabilized and the number of cattle being placed on feed is declining. The increase, then, is being driven primarily by increased poultry production. Domestic soybean meal consumption for the year is expected to grow by only 2 percent, following a 4.5 percent increase last year. Domestic use is projected at 32.35 million tons (Table 6).

Low soybean meal prices and a sharp drop in Canadian canola production are providing a boost to U.S. soybean meal exports. Commercial exports through January 17 totaled 2.349 million tons, an increase of 11 percent from exports of a year ago. Unshipped sales as of January 17 totaled 2.19 million tons, 25 percent larger than outstanding sales of a year ago. Indonesia, Canada, and Mexico account for much of the increase in export sales of U.S. soybean meal. For the year, the USDA projects soybean meal exports at 7.9 million tons, about 3.5 percent more than shipments during the 2000-01 marketing year. Sales already account for 57 percent of that projection. Sales are expected to slow considerably once South American supplies are available. However, the current projection appears a little low in light of demand to date. We are using a projection of 8 million tons.

Based on current projections, 40.35 million tons of U.S. soybean meal will be consumed during the 2001-02 marketing year. Meal yield per bushel of soybeans crushed during the

first four months of the year averaged 47.55 pounds, compared to 47.9 pounds during the first quarter last year. The average for all of last year was 48 pounds. If the average this year is 47.55, as implied by the average to date, the domestic crush will need to total 1.692 billion bushels, allowing for modest imports and a draw down in ending stocks. If the average yield of soybean meal increases as the year progresses, the crush would need to be somewhat smaller. We are using a projection of 1.685 billion bushels (Table 7). Crush during the first quarter of the year represents 25.4 percent of that total. The 5 year average is 25.64 percent.

If 1.685 billion bushels of soybeans are crushed, about 18.771 billion pounds of soybean oil will be produced, assuming an oil yield of 11.14 pounds per bushel. That average is projected from the yield during the first four months of the year and is 0.1 pound below last year's average. If domestic consumption of oil increases at the long term average of 2 percent, consumption will reach 16.55 billion pounds. The USDA projects use at 16.7 billion pounds. The USDA projects soybean oil exports at 2.5 billion pounds, 78 percent larger than last year's exports. Commercial export sales through January 17 were running about 30 percent larger than sales of a year ago. It appears that total soybean oil consumption during the current marketing year will total 19.05 billion pounds, leaving year-ending stocks of 2.676 billion pounds (Table 9).

U.S. soybean exports totaled 348.3 million bushels during the first quarter of the marketing year, 32.8 million (10.4 percent) larger than exports during the same quarter last year. Shipments were only 17 million bushels less than the record exports of 1997. Exports have remained large since December 1. The USDA's weekly export inspections report showed cumulative shipments through January 17 of 555 million bushels, 15 percent above the total of a year ago. Unshipped sales as of January 17 totaled 276.4 million bushels, 15 percent more than on the same date last year. The increase in shipments to

date reflect increased imports by the European Union, China, Japan, Mexico, and Indonesia. Unshipped sales to the European Union, China, and Mexico are down sharply from the level of a year ago. The timid pace of exports is expected to slow as the South American crop becomes available. As production has expanded into northern Brazilian, harvest is beginning earlier than in the past.

The size of the South American crop will be important in determining how rapidly the pace of U.S. soybean exports decline. The USDA now forecasts combined production in Brazil, Argentina, and Paraguay at 2.743 billion bushels, 193 million bushels larger than last year's crop (Table 10). Expected production in those three countries represents 40.8 percent of the world total, up from 39.8 percent last year, and only 31.2 percent five years ago. The increases in production in Brazil and Argentina reflect a combination of more area and higher average yields (Table 11). The increase in area in Brazil was especially large this year.

While prospects for a large harvest in South America this year are still in place, dry weather in parts of Argentina and southern Brazil threaten a portion of the crop. Production may fall a bit short of the current USDA projection. Declining currency values in Argentina may encourage producers to hold the newly harvested crop longer than normal, although storage space is limited. A persistence of a weak currency may stimulate more planting of soybeans at the expense of higher cost crops.

The USDA now projects 2001-02 marketing year U.S. exports at 1.01 billion bushels, 12 million above the record exports of a year ago. To meet that projection, exports need to average only 14 million bushels per week during the last 32 weeks of the marketing year. Exports during the last three quarters of the marketing year would be 43 million bushels less than during the same period last year. While the pace of exports will slow, the total for the year may be a bit higher than the

current USDA projection. We are using a forecast of 1.02 billion bushels.

Total consumption of U.S. soybeans, including feed, seed, and residual use, is projected at a record 2.88 billion bushels. Consumption at that level would leave year-ending stocks of 263 million bushels, only 15 million more than stocks at the beginning of the year (Table 6). The pattern of record supplies, record consumption, low prices, and modest stocks is continuing for the fourth consecutive year.

2002 Production Prospects

U.S. soybean acreage grew every year from 1991 through 2000. The 10-year increase in planted acreage totaled 16.47 million acres, or 28.5 percent. The expansion was fueled by a combination of economics and government programs. The growth in acreage was concentrated in western growing areas, where plantings grew by 13.95 million acres, or nearly 60 percent. Acreage in the eastern corn belt increased by 33 percent, while acreage in the rest of the country declined by 24 percent. The pattern of increasing acreage came to an end in 2001, primarily due to sharp reductions in southern growing areas. Total planted acreage of principal crops declined significantly in 2001. Excluding harvested acreage of hay, area of principal crops declined by just over 7 million acres in 2001, with the largest declines in wheat and feed grains.

Part of the uncertainty about soybean acreage in 2002 centers around the total acreage question. Will the total continue to decline in 2002, or will some of the lost acreage return to production? Part of the uncertainty about acreage centers around potential changes in the farm program. Will the CCC loan rate for soybeans be reduced in relation to the loan rates for feed grains and wheat? It is expected that total area planted in 2002 will expand modestly, mostly in feed grains. It appears that the area planted to wheat and soybeans will stabilize. The USDA will release a *Prospective Plantings* report on March 28.

Unchanged acreage and an average yield near the trend of 40 bushels would produce a 2002 crop of 2.920 billion bushels. A crop of that size would allow consumption to increase by nearly 70 million bushels and still leave year-ending stocks at a comfortable level.

Price Prospects

The average monthly price pattern of soybeans and soybean products for the 2001-02 marketing year has been as follows:

Month	Soybeans ¹ \$/bu	Meal ² \$/T	Oil ³ ¢/lb
Sept. 2001	\$4.52	—	—
Oct.	4.14	\$165.45	14.38¢
Nov.	4.24	166.10	15.23
Dec.	4.27	154.18	15.10
Jan. 2002 ⁴	4.27	157.58	15.08

¹ central Illinois; ² 48% protein Decatur, IL; ³ bulk Decatur, IL; ⁴ through Jan. 18

Compared to the same period last year, oil prices have been 1.8 cents higher, meal prices \$22 lower, and soybean prices \$.38 lower. The average price to date for soybeans is almost identical to the midpoint of the USDA's projection for the year. The average oil price has been near the low end of the USDA's projected range and the average meal price has been near the upper end of the projected range. Soybean prices are currently near their highest level since establishing a harvest low just under \$4.00 per bushel.

Price direction during the last half of the marketing year will be influenced most by crop prospects in South America and acreage and yield prospects in the U.S. The new farm bill, if it affects loan rates for the 2002 crop, could have some influence on U.S. soybean acreage. The trading range for the average cash price of soybeans in central Illinois has been relatively narrow so far in the marketing year, even considering the higher pre-harvest prices in September.

The trading range in each of the previous marketing years ranged from \$1.05 to \$1.92 per bushel. The highest price in those three years ranged from \$5.20 to \$5.795. The lowest price ranged from \$3.875 to \$4.295. The low so far this year has been \$3.985 and the high has been \$4.715. It appears that the marketing year low has been established. If so, history would suggest that the cash price in central Illinois should trade above \$5.00 sometime over the next six months. It will clearly take a weather problem for that to happen. Alternatively, a new low in the cash market could be established over the next six months. The most likely time for a new low would be in July or August, in the face of another record U.S. harvest.

What to do? For old crop soybeans being held unpriced, and for which marketing loan benefits have not been established, there is little risk other than storage costs. Lower prices will be offset by higher loan deficiency payments. Similarly, there is little upside potential as higher prices will be offset by lower payments. Holding under this scenario will be beneficial only if prices move above the loan rate. The most risk is associated with soybeans being held unpriced but for which marketing loan benefits have already been collected. The small carry in the market suggests that these soybeans should be sold. Speculating on higher prices could be done with a basis contract or by purchasing futures. Buying call options appears to be very expensive proposition. For soybeans being held without marketing loan protection, pricing on South American weather rallies over the next few weeks seems prudent. A portion of the crop could be held into the USDA's *Prospective Plantings* report and to see early season weather prospects in the U.S.



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Table 1. United States Soybean Production Estimates

	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001
	million bushels																						
August 1	2,130	1,880	2,017	2,293	1,843	2,035	1,959	1,979	2,000	1,474	1,905	1,836	1,869	2,079	1,902	2,282	2,246	2,300	2,744	2,727	2,870	2,989	2,867
September 1	2,174	1,831	2,089	2,314	1,535	2,028	2,063	1,980	1,957	1,472	1,889	1,835	1,817	2,085	1,909	2,316	2,285	2,270	2,746	2,909	2,778	2,900	2,834
October 1	2,213	1,757	2,107	2,300	1,517	1,972	2,108	1,992	1,968	1,501	1,926	1,823	1,934	2,108	1,891	2,458	2,190	2,346	2,722	2,769	2,696	2,823	2,907
November 1	2,236	1,775	2,077	2,300	1,535	1,902	2,129	2,009	1,960	1,512	1,937	1,904	1,962	2,167	1,834	2,523	2,183	2,403	2,736	2,763	2,673	2,777	2,923
January 1	2,268	1,817	2,030	2,277	1,595	1,861	2,099	2,007	1,905	1,539	1,927	1,922	1,986	2,197	1,809	2,558	2,152	2,382	2,727	2,757	2,643	2,770	2,891
FINAL	2,261	1,798	1,989	2,190	1,636	1,861	2,099	1,943	1,938	1,549	1,924	1,926	1,987	2,190	1,870	2,515	2,174	2,380	2,689	2,741	2,654	2,758	

Table 2. United States Soybean Yield Estimates

	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001
	million bushels																						
August 1	30.3	27.4	30.2	32.3	29.7	30.5	31.5	32.9	34.7	26.0	32.3	32.5	31.8	35.8	33.8	37.6	36.4	36.3	39.5	39.5	39.2	40.7	38.7
September 1	30.9	27.0	31.2	32.6	24.9	30.3	33.2	33.1	34.0	25.9	32.0	32.4	31.0	35.9	34.0	38.2	37.0	35.8	39.3	40.6	37.9	39.5	38.2
October 1	31.5	26.0	31.5	32.4	24.7	29.5	33.9	33.3	34.2	26.4	32.6	32.3	33.0	36.3	33.7	40.5	35.5	37.0	39.0	38.7	37.0	38.7	39.2
November 1	31.8	26.5	31.0	32.4	25.0	28.5	34.2	33.8	34.1	26.6	32.8	33.7	33.5	37.3	32.7	41.5	35.4	37.9	39.2	38.6	36.7	38.0	39.4
January 1	32.2	26.8	30.4	32.2	25.7	28.2	34.1	33.8	33.7	26.8	32.4	34.0	34.3	37.6	32.0	41.9	34.9	37.6	39.0	38.9	36.5	38.1	39.6
FINAL	32.1	26.5	30.1	31.5	26.2	28.1	34.1	33.3	33.9	27.0	32.3	34.1	34.2	37.6	32.6	41.4	35.3	37.6	38.9	38.9	36.6	38.1	

Table 3. Soybean Planting Intentions, Actual Plantings, and Acres Harvested

Year	January Intentions	Mar./April Intentions	June/July Intentions	Actual	Harvested Acreage
			million acres		
1975	57.5	56.6	54.6	54.6	53.8
1976	50.9	49.3	49.0	50.3	49.4
1977	53.1	55.7	59.0	59.0	57.6
1978	63.9	63.7	64.0	64.7	63.3
1979	66.3	68.8	71.6	71.4	70.3
1980	71.6	71.3	70.3	69.9	67.8
1981	---	69.8	68.5	67.5	66.2
1982	69.5 ^a	---	72.2	70.9	69.4
1983	68.8 ^a	65.8 ^b	63.3	63.8	62.5
1984	65.2 ^a	---	68.0	67.8	66.1
1985	64.4 ^a	---	63.3	63.1	61.6
1986	---	62.0	61.8	60.4	58.3
1987	---	56.9	58.7	58.180	57.172
1988	---	58.0	58.5	58.840	57.373
1989	---	61.7	61.3	60.820	59.282
1990		59.42	58.05	57.795	56.283
1991	58.5	57.12	59.78	59.180	58.169
1992		57.42	59.03	59.180	58.233
1993		59.30	61.58	60.085	57.307
1994		61.12	61.78	61.620	60.809
1995		61.45	63.105	62.495	61.544
1996		62.478	63.895	64.195	63.349
1997		68.800	70.850	70.005	69.110
1998		72.000	72.720	72.025	70.441
1999		73.105	74.205	73.730	72.446
2000		74.871	74.501	74.266	72.408
2001		76.657	75.416	74.105	73.000

^a February 1^b May 1

Table 4. Planted Acres of Soybeans by Region

Region	Western Corn Belt ^a			Eastern Corn Belt ^b			Mid-South ^c			Southeast ^d			East Coast ^e			United States		
	000 acres	%		000 acres	%		000 acres	%		000 acres	%		000 acres	%		000 acres	%	
1976	16,145	32.1		14,530	28.9		13,630	27.1		4,799	9.6		1,122	2.3		50,226	100.0	
1979	23,370	32.7		19,620	27.5		18,470	25.9		8,360	11.7		1,591	2.2		71,411	100.0	
1986	24,875	41.2		18,300	30.3		10,995	18.2		4,680	7.8		1,535	2.5		60,385	100.0	
1987	24,120	41.5		18,580	31.9		10,330	17.8		3,675	6.3		1,475	2.5		58,180	100.0	
1988	24,310	41.3		18,680	31.7		10,460	17.8		3,810	6.5		1,580	2.7		58,840	100.0	
1989	24,790	40.8		19,020	31.3		10,750	17.7		4,460	7.3		1,800	2.9		60,820	100.0	
1990	23,750	41.1		18,490	32.0		10,270	17.2		3,650	6.3		1,635	2.8		57,795	100.0	
1991	26,035	44.0		19,420	32.8		8,990	15.2		3,005	5.1		1,730	2.9		59,180	100.0	
1992	25,400	42.9		20,000	33.8		8,980	15.2		2,915	5.2		1,715	2.9		59,180	100.0	
1993	25,300	42.1		20,410	34.0		9,690	16.1		2,915	4.9		1,770	2.9		60,085	100.0	
1994	27,220	44.1		20,510	33.3		9,220	15.0		2,875	4.7		1,795	2.9		61,620	100.0	
1995	28,210	45.1		21,130	33.8		9,130	14.7		2,290	3.6		1,735	2.8		62,495	100.0	
1996	28,250	44.0		22,370	34.8		9,390	14.6		2,565	4.0		1,620	2.5		64,195	100.0	
1997	32,450	46.4		22,610	32.3		10,390	14.8		2,777	4.0		1,778	2.5		70,005	100.0	
1998	33,700	46.8		23,650	32.8		10,180	14.1		2,690	3.8		1,805	2.5		72,025	100.0	
1999	35,800	48.5		24,100	32.7		9,700	13.2		2,360	3.2		1,770	2.4		73,730	100.0	
2000	37,050	49.9		24,050	32.4		9,070	12.2		2,230	3.0		1,926	2.6		74,266	100.0	
2001	37,700	50.9		24,650	33.3		7,695	10.4		2,145	2.9		1,915	2.5		74,105	100.0	

^a Iowa, Kansas, Minnesota, Missouri, Nebraska, North Dakota, South Dakota^b Illinois, Indiana, Michigan, Ohio, Wisconsin^c Arkansas, Kentucky, Louisiana, Mississippi, Oklahoma, Tennessee, Texas^d Alabama, Florida, Georgia, North Carolina, South Carolina^e Delaware, Maryland, New Jersey, New York, Pennsylvania, Virginia, West Virginia

Table 5. Soybean Quarterly Balance Sheet

	1982-83	1983-84	1984-85	1985-86	1986-87	1987-88	1988-89	1989-90	1990-91	1991-92	1992-93	1993-94	1994-95	1995-96	1996-97	1997-98	1998-99	1999-00	2000-01	2001-02
	million bushels																			
September 1 stocks	254.5	344.6	175.7	318.1	536.4	436.4	302.5	182.0	239.1	329.0	278.4	292.3	209.1	334.8	183.5	131.8	199.8	348.5	280.2	247.7
Production	2,190.3	1,635.8	1,860.9	2,099.1	1,942.6	1,937.7	1,548.8	1,923.8	1,925.9	1,986.8	2,190.4	1,869.7	2,514.9	2,174.3	2,390.3	2,688.8	2,741.0	2,653.8	2,757.8	2,890.6
TOTAL	2,444.8	1,980.4	2,036.6	2,415.2	2,479.0	2,374.1	1,855.3	2,108.8	2,167.0	2,319.6	2,470.8	2,167.0	2,730.0	2,514.1	2,572.8	2,825.6	2,943.8	3,006.3	3,052.0	3,143.3
September-November																				
Crush	284.2	269.6	253.7	267.5	295.8	293.4	275.4	273.0	304.1	322.0	328.2	329.6	346.2	351.4	360.8	395.8	408.3	426.7	420.9	427.7
Export	245.9	190.8	153.4	166.5	216.5	260.8	136.3	169.5	120.1	187.1	235.9	176.0	230.9	233.6	289.7	365.3	288.5	297.8	315.5	348.3
Seed, residual	-36.2	48.5	14.8	21.5	10.1	64.6	74.8	56.6	58.8	51.5	70.7	79.8	50.9	95.7	97.4	66.9	78.5	98.9	75.6	91.6
TOTAL	493.9	508.7	421.9	455.4	522.4	618.8	488.5	498.1	483.0	540.6	634.8	585.4	628.0	681.7	747.7	826.2	758.8	823.4	812.0	867.6
December 1 stocks	1,950.9	1,471.7	1,614.7	1,959.8	1,956.6	1,755.3	1,366.8	1,810.7	1,684.0	1,779.0	1,836.0	1,573.6	2,102.0	1,833.4	1,825.1	1,998.4	2,186.0	2,182.9	2,240.0	2,275.7
Crush	314.9	262.5	276.4	281.9	320.1	317.3	286.3	304.3	301.4	323.1	335.2	327.2	371.8	359.0	400.7	443.1	408.6	408.1	417.9	
Export	263.6	234.6	230.2	270.9	233.7	258.9	197.0	217.0	179.7	259.6	255.9	212.7	283.5	278.7	333.1	306.4	243.1	315.4	338.4	
Seed, residual	26.6	18.8	47.0	35.7	63.8	33.0	-6.7	33.9	12.8	19.6	29.3	12.1	76.5	5.3	35.5	46.9	77.0	63.2	79.8	
TOTAL	605.1	515.9	553.6	588.5	617.6	609.2	476.6	555.2	493.9	602.3	620.4	552.0	731.8	643.0	769.3	796.5	728.7	786.7	836.1	
March 1 stocks	1,345.8	955.8	1,061.1	1,371.3	1,339.0	1,146.1	890.2	1,055.5	1,190.1	1,177.3	1,215.6	1,021.6	1,370.2	1,190.4	1,055.8	1,202.9	1,457.3	1,396.0	1,403.9	
Crush	260.1	240.0	258.2	262.3	297.2	306.3	270.1	290.7	295.5	304.0	325.4	320.4	361.7	334.0	355.7	404.9	396.4	373.9	405.4	
Export	216.2	204.2	153.4	226.4	159.3	185.0	135.5	153.2	146.9	148.2	186.7	120.6	216.6	188.5	185.9	120.0	181.9	205.8	220.8	
Seed, residual	78.9	39.9	41.1	33.7	45.7	-2.5	20.1	15.7	24.2	29.4	20.1	25.3	0.0	44.9	34.3	84.4	50.4	58.9	69.5	
TOTAL	555.2	484.1	452.7	522.4	502.2	490.8	425.7	459.6	466.6	481.6	532.2	466.3	578.3	567.4	555.9	609.2	608.7	621.8	695.7	
June 1 stocks	790.6	471.7	608.4	848.9	836.8	655.3	464.5	595.9	723.5	695.7	683.4	555.3	791.9	622.8	499.9	593.7	848.6	774.4	708.2	
Crush	248.8	210.6	242.1	241.1	265.5	255.5	225.8	278.4	285.9	304.6	290.0	298.4	325.5	324.9	318.7	353.2	375.4	370.1	397.0	
Export	179.5	113.6	61.1	76.3	147.4	97.6	56.2	84.2	110.4	109.0	91.0	79.7	107.0	150.5	93.0	78.7	127.5	171.8	123.7	
Seed, residual	17.7	-28.2	-10.9	-4.9	-12.5	0.3	0.5	-5.8	-1.8	3.1	10.1	-31.9	24.6	-35.2	-43.6	-37.9	-1.3	-55.0	-60.2	
TOTAL	446.0	296.0	292.3	312.5	400.4	352.8	282.5	356.8	394.5	416.7	391.1	346.2	457.1	439.6	368.1	393.9	501.6	486.7	460.5	
September 1 stocks	344.6	175.7	316.1	536.4	436.4	302.5	182.0	239.1	329.0	278.4	292.3	209.1	334.8	183.5	131.8	199.8	348.5	290.2	247.7	
Annual																				
Crush	1,108.0	982.7	1,030.4	1,052.8	1,178.7	1,174.5	1,057.6	1,146.4	1,186.9	1,253.7	1,278.8	1,275.6	1,405.2	1,369.4	1,435.7	1,595.1	1,589.7	1,578.8	1,641.2	
Export	905.2	743.0	598.1	740.1	756.9	801.7	527.0	622.9	557.1	683.9	769.5	589.0	838.0	851.2	861.7	870.4	801.0	973.8	998.4	
Seed, residual	87.0	79.0	92.0	85.9	107.0	95.4	68.7	100.4	94.0	103.6	130.2	85.3	152.0	110.4	123.6	160.3	204.6	166.2	184.5	
TOTAL	2,100.2	1,804.7	1,720.5	1,878.8	2,042.6	2,071.6	1,673.3	1,869.7	1,838.0	2,041.2	2,178.5	1,949.9	2,397.0	2,330.9	2,441.0	2,625.8	2,595.3	2,718.80	2,803.10	

Table 6. Soybean Meal Balance Sheet -- Years Beginning October 1

	1989-90	1990-91	1991-92	1992-93	1993-94	1994-95	1995-96	1996-97	1997-98	1998-99	1999-00	2000-01	2001-02
	thousand tons												
Beginning stocks	173	318	285	230	204	150	223	212	210	218	330	293	383
Production	27,719	28,325	29,831	30,364	30,514	33,270	32,527	34,210	38,176	37,792	37,591	39,389	40,192
TOTAL ^a	27,982	28,688	30,183	30,687	30,788	33,483	32,825	34,524	38,443	38,109	37,970	39,733	40,625
Domestic	22,291	22,934	23,007	24,251	25,283	26,542	26,611	27,320	28,895	30,657	30,346	31,713	32,350
Exports	5,319	5,469	6,946	6,232	5,356	6,717	6,002	6,994	9,330	7,122	7,331	7,636	8,000
TOTAL	27,610	28,403	29,953	30,483	30,639	33,260	32,613	34,314	38,225	37,779	37,678	39,349	40,350
Ending stocks	318	285	230	204	150	223	212	210	218	330	293	383	275
Price ^b	\$173.94	\$170.00	\$176.00	\$181.85	\$180.00	\$151.00	\$225.00	\$260.40	\$175.00	\$131.83	\$159.55	\$165.00	\$150.00

^a Includes imports^b Bulk, Decatur, Illinois 44%

Table 7. Soybean Balance Sheet -- Years Beginning September 1

	1989-90	1990-91	1991-92	1992-93	1993-94	1994-95	1995-96	1996-97	1997-98	1998-99	1999-00	2000-01	2001-02 ^a
	million bushels												
Carryin	182	239	329	278	292	209	335	183	132	200	348	290	248
Production	1,924	1,926	1,987	2,190	1,870	2,515	2,174	2,380	2,689	2,741	2,654	2,758	2,891
TOTAL ^b	2,109	2,167	2,320	2,470	2,168	2,729	2,514	2,573	2,826	2,944	3,006	3,052	3,143
Crush	1,146	1,187	1,254	1,279	1,276	1,405	1,369	1,436	1,597	1,590	1,579	1,641	1,685
Export	623	557	684	770	589	838	851	882	870	805	973	998	1,020
Seed, feed,	101	94	103	129	94	151	111	123	159	201	164	165	175
TOTAL	1,870	1,838	2,041	2,178	1,954	2,394	2,331	2,441	2,626	2,596	2,716	2,804	2,880
Carryout	239	329	278	292	209	335	183	132	200	348	290	248	263
U.S. Average	\$5.70	\$5.75	\$5.58	\$5.60	\$6.40	\$5.48	\$6.77	\$7.35	\$6.47	\$4.93	\$4.63	\$4.54	\$4.30

^a Projected^b Includes Imports

Table 8. World Oilseed and Soybean Production

Year	Major Oilseeds			Soybeans		
	United States	Ex-United States	Total	United States	Ex-United States	Total
million metric tons						
1977-78	56.5	93.7	150.2	47.95	23.98	71.93
1978-79	58.6	92.0	150.6	50.86	26.62	77.48
1979-80	72.4	98.1	170.5	61.72	31.79	93.51
1980-81	55.8	99.8	155.6	48.77	32.20	80.97
1981-82	64.0	105.5	169.5	54.13	31.93	86.06
1982-83	68.2	110.1	178.3	59.61	33.96	93.57
1983-84	50.4	115.1	165.5	44.52	38.64	84.16
1984-85	59.2	131.7	191.1	50.64	42.50	93.14
1985-86	65.4	130.8	196.2	57.13	39.92	97.05
1986-87	59.4	135.0	194.4	52.87	45.21	98.08
1987-88	60.6	150.0	210.6	52.75	51.06	103.81
1988-89	50.3	153.9	204.2	42.15	53.49	95.64
1989-90	59.3	153.1	212.4	52.35	55.02	107.37
1990-91	60.6	155.1	215.7	52.42	51.57	103.99
1991-92	64.3	160.0	224.3	54.07	53.31	107.38
1992-93	68.4	158.9	227.4	59.61	57.69	117.30
1993-94	59.5	168.4	227.9	50.92	66.58	117.50
1994-95	79.7	181.2	260.9	68.49	69.14	137.63
1995-96	69.1	190.6	259.7	59.24	65.72	124.96
1996-97	74.8	187.0	261.8	64.78	67.40	132.18
1997-98	83.1	203.9	287.0	73.18	84.90	158.07
1998-99	84.4	210.3	294.7	74.60	85.21	159.81
1999-00	82.3	221.0	303.3	72.22	87.66	159.88
2000-01	84.9	226.8	311.7	75.06	99.22	174.28
2001-02	89.9	233.5	323.4	78.67	104.16	182.83

¹WASDE Jan. 11, 2002 and earlier.

Table 9. Soybean Oil Balance Sheet -- Years Beginning October 1

	1989-90	1990-91	1991-92	1992-93	1993-94	1994-95	1995-96	1996-97	1997-98	1998-99	1999-00	2000-01	2001-02 ^c
	million pounds												
Beginning stocks	1,715	1,305	1,786	2,239	1,555	1,103	1,137	2,015	1,520	1,382	1,520	1,995	2,877
Production	<u>13,003</u>	<u>13,406</u>	<u>14,346</u>	<u>13,778</u>	<u>13,951</u>	<u>15,613</u>	<u>15,240</u>	<u>15,752</u>	<u>18,143</u>	<u>18,081</u>	<u>17,825</u>	<u>18,434</u>	<u>18,771</u>
TOTAL ^a	14,740	14,728	16,132	16,027	15,574	16,733	16,472	17,821	19,723	19,546	19,427	20,521	21,726
Domestic	12,082	12,163	12,246	13,053	12,941	12,916	13,465	14,263	15,262	15,655	16,056	16,223	16,550
Exports	<u>1,353</u>	<u>779</u>	<u>1,647</u>	<u>1,419</u>	<u>1,529</u>	<u>2,680</u>	<u>992</u>	<u>2,037</u>	<u>3,079</u>	<u>2,372</u>	<u>1,376</u>	<u>1,402</u>	<u>2,500</u>
TOTAL	13,435	12,942	13,893	14,472	14,471	15,596	14,457	16,300	18,341	18,027	17,432	17,625	19,050
Ending stocks ^b	1,305	1,786	2,239	1,555	1,103	1,137	2,015	1,520	1,382	1,520	1,995	2,877	2,676
Average Price ^b	22.3¢	21.0¢	19.1¢	21.4¢	27.1¢	27.6¢	24.75¢	22.5¢	25.8¢	19.9¢	15.60¢	14.2¢	15.5¢

^a Includes imports

^b Bulk, Decatur, Illinois 44%

^c Projected

Table 10. Soybean Production by Country

Year	United States	Brazil ^a	Argentina ^a	Paraguay ^a	China	Other	World	All Foreign
million bushels								
1970	1,127	76	2	3	254	165	1,627	500
1971	1,176	135	3	4	290	126	1,734	558
1972	1,283	184	10	4	320	66	1,867	584
1973	1,547	289	18	7	367	64	2,292	745
1974	1,215	363	18	8	349	54	2,007	792
1975	1,547	413	26	10	367	46	2,409	862
1976	1,288	460	51	14	242	128	2,183	895
1977	1,762	350	99	12	266	154	2,643	881
1978	1,870	557	136	20	278	167	2,847	977
1979	2,261	376	132	21	274	191	3,255	994
1980	1,798	558	129	22	292	176	2,975	1,177
1981	1,989	471	152	22	342	186	3,162	1,173
1982	2,190	542	154	19	332	200	3,437	1,247
1983	1,636	571	257	20	359	213	3,056	1,420
1984	1,861	672	248	35	356	248	3,421	1,561
1985	2,099	518	268	22	386	272	3,565	1,466
1986	1,943	636	257	35	427	303	3,601	1,658
1987	1,938	662	356	40	457	359	3,812	1,874
1988	1,549	852	235	60	428	387	3,506	1,957
1989	1,924	747	395	58	376	445	3,945	2,020
1990	1,926	579	423	48	404	446	3,826	1,900
1991	1,987	709	410	48	357	435	3,946	1,959
1992	2,188	827	417	64	378	434	4,308	2,120
1993	1,871	908	456	66	563	454	4,318	2,447
1994	2,517	952	459	81	588	460	5,057	2,540
1995	2,177	887	457	88	496	487	4,591	2,415
1996	2,380	1,003	412	102	486	474	4,857	2,477
1997	2,689	1,194	717	110	551	545	5,806	3,117
1998	2,741	1,150	735	112	557	577	5,872	3,131
1999	2,654	1,257	779	107	525	527	5,875	3,221
2000	2,758	1,426	999	125	566	530	6,404	3,646
2001	2,891	1,562	1,056	125	562	522	6,718	3,827

^a Harvested in the spring of the following year.

Table 11. South American Soybean Area, Yield and, Production, 1988 to Date

Year	Brazil			Argentina			Paraguay		
	Area mil. ha.	Yield t/ha.	Production mil.t	Area mil. ha.	Yield t/ha.	Production mil. t.	Area mil. ha.	Yield t/ha.	Production mil. t.
1988-89	12.15	1.94	23.60	4.00	1.63	6.50	0.85	1.90	1.62
1989-90	11.55	1.76	20.34	4.95	2.17	10.75	0.98	1.61	1.58
1990-91	9.75	1.62	15.75	4.75	2.42	11.50	0.89	1.46	1.30
1991-92	9.70	1.99	19.30	4.80	2.32	11.15	0.90	1.44	1.30
1992-93	10.63	2.12	22.50	4.90	2.32	11.35	0.98	1.79	1.75
1993-94	11.44	2.16	24.70	5.40	2.30	12.40	1.05	1.71	1.80
1994-95	11.68	2.22	25.90	5.70	2.19	12.50	1.10	2.00	2.20
1995-96	10.95	2.21	24.15	5.98	2.08	12.43	1.10	2.18	2.40
1996-97	11.80	2.27	26.80	6.26	1.81	11.20	1.20	2.31	2.77
1997-98	13.00	2.50	32.50	6.95	2.80	19.50	1.20	2.49	2.99
1998-99	12.90	2.43	31.30	8.17	2.45	20.00	1.20	2.54	3.05
1999-00	13.60	2.51	34.20	8.58	2.47	21.20	1.15	2.52	2.90
2000-01	13.97	2.78	38.80	10.32	2.64	27.20	1.25	2.72	3.40
2001-02	15.65	2.72	42.50	11.10	2.59	28.75	1.30	2.62	3.40

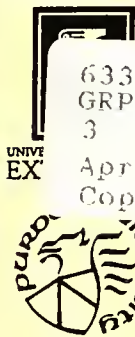
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Grain Price OUTLOOK

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CORN: ATTENTION NOW TURNS TO THE NEW CROP

APRIL 2002

Darrel Good

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UNIVERSITY OF ILLINOIS

Summary

The USDA's March *Grain Stocks* report revealed larger corn inventories than the market expected, but recent export activity suggests that shipments for the current year may be near those of last year. The USDA's March *Prospective Plantings* report indicated that corn acreage will expand to 79.047 million in 2002, about 3.3 million more than planted last year, and slightly above the average of the previous six years of "freedom to farm".

The mid-year reports suggest ample supplies of corn for the remainder of the 2001-02 marketing year and prospects for another large crop in 2002. Corn prices sagged under the news. Planting progress and weather will dominate prices for the next several months. Some concerns about the 2002 crop will have to unfold in order to push prices above the narrow trading range experienced so far this year.

Old Crop Supply and Use

The USDA's March 1, 2002 *Grain Stocks* report revealed a corn inventory of 5.796 billion bushels, 247 million bushels smaller than the inventory of a year ago, but about 50 million larger than anticipated by the market (Table 1). The stocks estimate implies that feed and residual use of corn

during the second quarter of the marketing year totaled 1.551 billion bushels, 56 million less than during the same quarter last year. However, quarterly calculations of feed and residual use tend to be a little unpredictable. The calculation of use during the first half of the 2001-02 marketing year comes in at 3.754 billion bushels, 15 million larger than use during the first half of the 2000-01 marketing year. For the current year, the USDA projects that feed and residual use of corn will reach 5.825 billion bushels, 13 million less than the use of a year ago. With the slow expansion in hog production and the pattern of feeding cattle and hogs to heavier weights, use could exceed the USDA projection. A projection of 5.84 billion is used here, 30 million less than used in our January newsletter.

U.S. corn exports were relatively small during the first quarter of the 2001-02 marketing year, totaling only 451 million bushels, compared to 506 million in the first quarter of the previous year (Table 1). During the second quarter of the year (December 2001 through February 2002), U.S. corn exports totaled 434 million bushels, 18 million above exports during the same quarter last year. Based on estimates of exports in the USDA's weekly export inspection report, cumulative exports through April 4, 2002 were 47 million bushels less than cumulative shipments of a

year ago. However, as of April 4, unshipped sales of U.S. corn were 27 million larger than outstanding sales of a year ago. It now appears that exports during the third quarter of the 2001-02 marketing year (March through May 2002) may exceed shipments of a year ago, as sales to Japan catch up to last year's pace. However, exports during the fourth quarter of the 2000-01 marketing year were quite larger (third largest ever). Shipments in August 2001 were record large for that month. It may be difficult to match that pace this year due to a significant reduction in sales to South Korea and Mexico. Even if cumulative shipments exceed those of a year ago during the next two months, the total for the year is still expected to be slightly below that of last year. We are using a projection of 1.925 billion bushels (Table 2).

The increase in U.S. corn consumption in 2001-02 is coming in the domestic processing market, as ethanol production expands. Use in the seed, food, and industrial category is projected at 2.05 billion bushels, 83 million above the use of a year ago. Corn used for all purposes during the 2001-02 marketing year is now projected at 9.815 billion bushels, 74 million above last year's use. The increase in consumption along with a much smaller harvest in 2001 will result in a draw down in stocks. Stocks of U.S. corn at the end of the current marketing year (September 1, 2002) are projected at 1.601 billion bushels, 298 million below the level of stocks at the beginning of the year (Table 2).

New Crop Prospects

Planted acreage of corn in the U.S. totaled 75.752 million acres in 2001, the smallest area since 1995, the last time an acreage reduction program was in place. Acreage in 2001 was 941,000 below March 2001 intentions and 3.8 million less than planted in 2000 (Table 3). The decline in corn acreage in 2001 came primarily in the

western states of Iowa (600,000), Minnesota (400,000), Nebraska (400,000), South Dakota (500,000), and Texas (500,000). Only Indiana had more corn acreage in 2001 than in 2000 (Table 4).

The USDA's March 2002 *Prospective Plantings* report revealed intentions to expand corn acreage in 2002. The planned increase is widespread, with only Kansas and Colorado showing smaller acreage than in 2001. At 79.047 million, corn plantings would be 3.3 million acres larger than in 2001 and 1.118 million less than the recent peak reached in 1998. Comparing 2002 corn planting intentions to actual acreage in 2000 shows a 600,000 acre increase in the eastern corn belt and a one million acre reduction in the western corn belt. Compared to the peak year of 1998, acreage intentions for 2002 are up 800,000 in the eastern corn belt, down 650,000 acres in the western corn belt, and down 500,000 acres in Texas.

Historically, planted acreage of corn has differed from March intentions, sometimes significantly. Since 1996, when the current farm program went into effect, planted acreage was below March intentions each year, except for 2000. The difference between actual acreage and March intentions has been a little as 616,000 acres (1998) and as much as 1.879 million acres (1997). The average absolute difference between March intentions and actual acreage was 1.105 million acres.

There is some expectation that corn acreage in 2002 will fall short of intentions if CCC loan rates are not changed for the major crops in 2002. Current loan rates tend to favor soybean production over corn production in some areas, particularly with the recent decline in 2002 crop corn prices. Acreage may also be influenced by spring weather conditions. An exceptionally late planting season could result in some shift from corn to soybeans. A bigger

uncertainty, however, may be the magnitude of total planted acreage. Acreage of non-hay crops declined by 7.05 million in 2001 and is scheduled to increase by only 309,000 in 2002. Acreage of all crops (included harvested acreage of hay) declined by 3.4 million acres in 2001 and is scheduled to rebound by only 541,000 acres in 2002. The USDA's June Acreage report will contain new estimates of total acreage and acreage of individual crops.

The difference between planted acreage of corn and acreage harvested for grain has varied from 7.576 (1998) million to 6.585 (1996) million acres over the last six years. The average difference was 6.947 million and the average difference excluding 1996 and 1998 was 6.88 million acres. If 79.047 million acres of corn are planted in 2002 and an average season is experienced, acreage harvested for grain should be near 72.15 million acres.

The U.S. average corn yield has been relatively stable over the past six years, ranging from 126.7 bushels to 138.2 bushels (Table 5). The 11.5 bushel range compares to a 37.9 bushel range in the six years from 1990 through 1995, and a 35.2 bushel range in the six years from 1984 through 1989. Not only has the range in average yields been narrow since 1996, but the average has been consistently high, near or above trend value. Growing conditions have been far from ideal in each of the last six years, but widespread hot, dry conditions have been avoided. At the start of the 2002 midwest planting season, soil moisture is generally adequate in eastern growing areas and less plentiful in western growing areas. Beyond that, little can be said about prospective growing conditions and average yields in 2002. Trend yield for 2002 is generally calculated to be between 139 and 140 bushels per acre. A trend yield on 72.15 million acres, then, would produce a crop between 10 and 10.1 billion bushels.

A crop of 10.05 billion bushels, along with beginning stocks of 1.601 billion and imports of 10 million would provide a supply of 11.661 billion bushels of corn for the 2002-03 marketing year. That would be 245 million larger than the supply for the current marketing year, and about equal to the supply of the 2000-01 marketing year.

Prospective Consumption

A crop of 10.05 billion bushels in 2002 would allow total consumption of U.S. corn to grow to 10.161 billion bushels during the 2002-03 marketing year and still maintain year ending stocks at 1.5 billion bushels. Is there potential for more than a 346 million bushel (3.5 percent) increase in consumption of U.S. corn at current market prices?

Growth in domestic consumption will likely occur in both the processing and feed sectors, with the most potential in the processing sector due to increased ethanol production. Based on current and planned capacity, projections are generally in excess of a 100 million bushel increase in corn consumption for ethanol production. Total processing use could expand to 2.175 billion bushels (Table 2). Feed and residual use will be influenced by expanding hog numbers, declining cattle numbers and prospects for a smaller sorghum crop. Planting intentions for sorghum in 2002 were reported at 9.015 million acres, 1.237 million less than planted last year and 180,000 less than planted in 2000. The significant decline in total crop land acreage intended to be planted in Kansas in 2002 is somewhat of a mystery. Additional acreage could be "found" in the June report, depending on spring weather conditions. We project feed and residual use of corn during the year ahead at 5.9 billion bushels. If current low hog prices lead to some liquidation, that projection will have to be lowered.

U.S. corn exports during the year ahead will be influenced by a number of factors,

including the magnitude of world grain supplies, exchange rates, and prices. A smaller South American corn harvest, a rebound in shipments to Mexico, and perhaps less competition from China are all constructive factors for the U.S. corn export market. We project a potential increase in exports to 2.05 billion bushels, bringing the total potential market size for the 2002 U.S. corn crop to 10.25 billion bushels. With production of 10.05 billion bushels, there is potential for another 65 million bushel decline in U.S. corn stocks by the end of the 2002-03 marketing year.

Price Prospects

Corn prices have traded in a very narrow range since the beginning of the 2001-02 marketing year in September 2001. The average cash price in central Illinois traded to a harvest low of \$1.795 (October 15, 2001) and to a high of \$2.02 on December 10. This is similar to last year's pattern when prices bottomed at harvest and peaked in December. A December high for cash prices, however, is very rare. The trading range of \$.225 in cash corn prices is also unusually narrow. Over the previous 28 seasons, the marketing year trading range for cash corn in central Illinois has not been less than \$.445 (1990-91). The range has averaged nearly \$.66 over the past three seasons. While cash corn prices have been extremely stable for the past seven months, futures prices have generally declined. May 2002 futures were trading near \$2.30 in mid-October 2001, but are now near \$2.00.

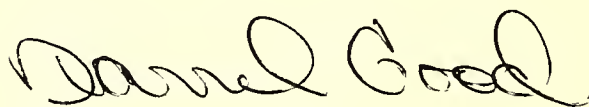
Typically, spring time brings more volatility to the corn market and often brings the highest cash prices of the year. The price strength and volatility is associated with uncertainty about prospects for the new crop. Ideas that corn acreage will fall short of March intentions and/or planting delays could bring somewhat higher corn prices over the next several weeks. At a minimum, futures prices should find support near current

levels and basis should show some seasonal strength into May. The upside potential will be a direct function of the degree of concern about the crop. The decline in prices that began in October 2001 left some gaps on the daily bar charts just above \$2.30 for the May 2002 contract, above \$2.35 on the July 2002 futures contract and above \$2.45 on the December 2002 contract. Those seem like very lofty targets at this point and would likely require some significant crop concerns in order to be filled.

If a large crop, 10 billion bushels or larger, does materialize, another year of relatively low prices can be anticipated for 2002-03. Once again, however, the relatively low level of corn inventories means that the market is vulnerable to a shortfall in production in the U.S. or other major producing area.

Pricing Strategies

With current cash prices near the CCC loan rate in many areas, holding unpriced old crop inventory for the potential of a weather rally over the next few weeks appears to be a low risk strategy. If a spring rally does not occur, and a large crop is in the making, prices could come under renewed pressure in July and August. Bids for harvest delivery are just below the old crop loan rate. Like the old crop, giving the market some time for a spring weather rally seems low risk at this time. However, a large crop in 2002 would likely push the price of December 2002 futures under \$2.00, as has been the case for the past four years.



Issued by Darrel Good
Extension Economist
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Table 1. Corn Quarterly Balance Sheet

	1981-82	1982-83	1983-84	1984-85	1985-86	1986-87	1987-88	1988-89	1989-90	1990-91	1991-92	1992-93	1993-94	1994-95	1995-96	1996-97	1997-98	1998-99	1999-00	2000-01	2001-02
	million bushels																				
September 1 stocks	1,392	2,537	3,523	1,006	1,648	4,040	4,882	4,259	1,930	1,344	1,521	1,100	2,113	850	1,558	426	883	1,308	1,787	1,718	1,899
Production	8,119	8,235	4,174	7,672	8,875	8,226	7,131	4,929	7,532	7,934	7,475	9,477	6,338	10,051	7,400	9,233	9,207	9,759	9,431	9,915	9,507
TOTAL ^a	9,511	10,772	7,699	8,680	10,534	12,267	12,016	9,191	9,464	9,282	9,016	10,584	8,472	10,910	8,974	9,672	10,099	11,085	11,232	11,639	11,416
September-November																					
Seed, food, ind.	173	208	227	244	276	295	296	302	312	338	361	370	383	410	417	388	435	450	459	466	489
Export	519	443	493	503	415	318	396	471	582	383	421	488	435	449	660	487	380	450	534	506	451
Feed, residual	1,218	1,215	1,326	1,301	1,219	1,348	1,551	1,344	1,487	1,619	1,673	1,814	1,701	1,963	1,778	1,885	2,030	2,118	2,189	2,132	2,203
TOTAL	1,910	1,866	2,046	2,048	1,910	1,961	2,243	2,117	2,381	2,339	2,455	2,672	2,519	2,822	2,856	2,759	2,845	3,018	3,182	3,104	3,143
December 1 stocks	7,601	8,906	5,652	6,631	8,615	10,305	9,771	7,072	7,082	6,940	6,547	7,906	5,937	8,080	6,106	6,903	7,247	8,052	8,039	8,530	8,265
Seed, food, ind.	166	192	212	236	262	281	288	301	313	330	362	365	379	410	405	400	425	434	447	465	484
Export	470	510	506	580	460	313	405	502	682	471	362	463	330	590	562	525	380	465	468	416	434
Feed, residual	1,199	1,305	1,069	1,192	1,306	1,463	1,444	1,065	1,276	1,351	1,267	1,401	1,240	1,492	1,344	1,486	1,503	1,460	1,526	1,607	1,551
TOTAL	1,835	2,007	1,787	2,008	2,028	2,057	2,137	1,868	2,271	2,152	1,991	2,229	1,949	2,493	2,311	2,411	2,308	2,359	2,441	2,488	2,469
March 1 stocks	5,766	6,899	3,865	4,623	6,587	8,248	7,636	5,204	4,812	4,789	4,561	5,678	3,996	5,592	3,800	4,494	4,940	5,698	5,602	6,043	5,796
Seed, food, ind.	201	228	253	294	307	333	337	353	376	384	414	414	423	452	433	471	470	495	512	524	524
Export	596	475	513	475	201	496	510	592	601	454	371	411	270	568	610	433	350	497	451	456	456
Feed, residual	1,089	1,272	954	1,019	1,091	1,088	951	841	993	960	1,042	1,146	950	1,159	1,044	1,097	1,084	1,097	1,059	1,142	1,142
TOTAL	1,886	1,975	1,720	1,788	1,599	1,917	1,798	1,786	1,970	1,798	1,828	1,971	1,642	2,180	2,087	2,001	1,904	2,089	2,022	2,122	2,122
June 1 stocks	3,880	4,924	2,145	2,836	4,990	6,332	5,839	3,419	2,843	2,992	2,739	3,709	2,360	3,415	1,718	2,497	3,040	3,616	3,586	3,924	3,924
Seed, food, ind.	193	227	238	293	307	324	331	341	369	374	396	407	429	442	373	460	475	467	495	512	512
Export	412	393	374	292	151	365	406	463	503	419	430	301	293	570	396	353	394	569	484	559	559
Feed, residual	739	781	527	603	499	761	843	685	627	679	816	891	789	846	527	809	865	795	890	955	955
TOTAL	1,344	1,401	1,139	1,188	957	1,450	1,580	1,489	1,499	1,472	1,642	1,599	1,511	1,858	1,295	1,617	1,734	1,831	1,869	2,025	2,025
September 1 stocks	2,537	3,523	1,006	1,648	4,040	4,882	4,259	1,930	1,344	1,521	1,100	2,113	850	1,558	426	883	1,308	1,787	1,718	1,899	1,899
Annual																					
Seed, food, ind.	733	855	930	1,067	1,152	1,233	1,251	1,298	1,370	1,425	1,533	1,556	1,613	1,715	1,628	1,714	1,805	1,846	1,913	1,967	1,967
Export	1,997	1,821	1,887	1,850	1,227	1,492	1,716	2,029	2,367	1,727	1,584	1,663	1,328	2,177	2,228	1,797	1,504	1,981	1,937	1,937	1,937
Feed, residual	4,245	4,573	3,876	4,115	4,114	4,660	4,789	3,934	4,382	4,609	4,798	5,252	4,680	5,460	4,693	5,277	5,482	5,471	5,664	5,836	5,836
TOTAL	6,975	7,249	6,693	7,032	6,494	7,385	7,757	7,260	8,120	7,761	7,916	8,471	7,622	9,352	8,548	8,789	8,791	9,298	9,524	9,740	9,740

^a Includes imports for the entire year.

Table 2. Corn Annual Balance Sheet

	1989-90	1990-91	1991-92	1992-93	1993-94	1994-95	1995-96	1996-97	1997-98	1998-99	1999-00	2000-01	2001-02	2002-03 ^a
	million bushels													
Carryin	1,930	1,344	1,521	1,100	2,113	850	1,558	426	883	1,308	1,787	1,718	1,899	1,601
Production	7,532	7,934	7,475	9,477	6,338	10,051	7,400	9,233	9,207	9,759	9,431	9,915	9,507	10,050
TOTAL ^b	9,464	9,282	9,016	10,584	8,472	10,910	8,974	9,672	10,099	11,085	11,232	11,659	11,416	11,661
Seed, food, industrial	1,370	1,425	1,533	1,556	1,613	1,715	1,628	1,714	1,805	1,846	1,913	1,967	2,050	2,175
Export	2,367	1,727	1,584	1,663	1,328	2,177	2,228	1,797	1,504	1,981	1,937	1,935	1,925	2,050
Feed and residual	4,382	4,609	4,798	5,252	4,680	5,460	4,693	5,277	5,482	5,471	5,664	5,838	5,840	5,900
TOTAL	8,120	7,761	7,915	8,471	7,621	9,352	8,548	8,789	8,791	9,298	9,515	9,741	9,815	10,125
Carryout	1,344	1,521	1,100	2,113	850	1,558	426	883	1,308	1,787	1,718	1,899	1,601	1,536
U.S. average price	\$2.36	\$2.28	\$2.37	\$2.07	\$2.50	\$2.26	\$3.24	\$2.71	\$2.45	\$1.94	\$1.82	\$1.85	\$1.90	\$1.95

^a Projected^b Includes imports

Table 3. United States Corn Planting Intentions, Actual Plantings, and Acres Harvested

Year	Planted Acreage			Actual	Harvested Acreage
	February/January Intentions	March Intentions	June Intentions		
			thousand acres		
1976	80,822	82,727	84,092	84,588	71,506
1977	84,526	83,923	82,735	84,328	71,614
1978	80,944	80,237	78,717	81,675	71,930
1979	80,676	79,209	79,751	81,394	72,400
1980	83,131	82,022	83,478	84,043	72,961
1981	...	83,977	84,677	84,097	74,524
1982	...	84,735	82,129	81,857	72,719
1983	69,569 ^a	58,812	60,129	60,217	51,479
1984	...	81,766	79,940	80,617	71,897
1985	...	82,021	83,217	83,398	75,209
1986	...	78,066	76,646	76,580	68,907
1987	...	67,556	66,024	66,200	59,505
1988	...	66,926	67,519	67,717	58,250
1989	...	73,253	72,790	72,322	64,783
1990	...	74,804	74,574	74,166	66,952
1991	77,500	76,124	75,909	75,957	68,822
1992		79,007	79,335	79,311	72,077
1993		76,486	74,259	73,239	62,933
1994		78,625	78,767	78,921	72,514
1995		75,323	72,800	71,479	65,210
1996		79,920	80,355	79,229	72,644
1997		81,416	80,227	79,537	72,671
1998		80,781	80,798	80,165	72,589
1999		78,219	77,611	77,386	70,487
2000		77,881	79,579	79,551	72,740
2001		76,693	76,109	75,752	68,808
2002		79,047			

^a February

Table 4. Planted Acreage of Corn by State

State	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002
	thousand acres												
Georgia	660	600	750	650	600	400	580	550	500	350	360	265	330
Illinois	10,600	11,200	11,200	10,590	11,600	10,200	11,000	11,200	10,600	10,800	11,200	11,000	11,300
Indiana	5,600	5,700	6,100	5,550	6,100	5,400	5,600	5,900	5,800	5,800	5,700	5,800	6,000
Iowa	12,800	12,500	13,200	12,000	13,000	11,700	12,700	12,200	12,500	12,100	12,300	11,700	12,600
Kansas	1,600	1,800	1,850	2,000	2,280	2,150	2,500	2,750	3,000	3,150	3,450	3,450	3,300
Kentucky	1,350	1,400	1,420	1,370	1,350	1,280	1,300	1,270	1,300	1,320	1,330	1,200	1,270
Michigan	2,400	2,600	2,700	2,500	2,550	2,450	2,650	2,500	2,300	2,200	2,200	2,200	2,300
Minnesota	6,700	6,600	7,200	6,300	7,000	6,700	7,500	7,000	7,300	7,100	7,200	6,800	7,000
Missouri	2,100	2,300	2,500	2,200	2,400	1,650	2,750	2,700	2,650	2,650	2,850	2,700	2,800
Nebraska	7,700	8,200	8,300	8,000	8,600	8,000	8,500	8,900	8,800	8,600	8,500	8,100	8,400
North Carolina	1,200	1,050	1,150	1,000	1,000	800	1,000	960	860	750	730	700	770
Ohio	3,700	3,700	3,800	3,500	3,700	3,300	2,900	3,800	3,550	3,450	3,550	3,400	3,550
Pennsylvania	1,380	1,400	1,380	1,370	1,400	1,380	1,450	1,550	1,550	1,500	1,550	1,500	1,450
South Dakota	3,400	3,750	3,800	3,350	3,800	2,800	4,000	3,800	3,900	3,600	4,300	3,800	4,000
Tennessee	620	620	740	660	670	640	770	700	700	630	650	630	690
Texas	1,650	1,700	1,750	2,000	2,150	2,100	2,100	2,000	2,400	1,950	2,100	1,600	1,900
Wisconsin	3,700	3,800	3,900	3,400	3,750	3,650	3,900	3,850	3,700	3,600	3,500	3,400	3,600
United States	74,171	75,951	79,325	73,323	79,158	71,245	79,487	79,537	80,165	77,386	79,551	75,752	79,047

Table 5. United States Corn Yield Estimates

	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	
	bushels per acre																											
July 1	93.0	90.5	89.4	90.1	95.8	99.3	95.9	...	...	...	...	...	...	87.0														
August 1	87.4	86.7	87.3	96.1	102.1	93.0	104.3	113.9	99.9	107.9	110.6	120.4	121.4	78.5	112.8	117.7	107.8	121.3	116.0	128.4	125.6	118.7	125.3	130.0	134.7	141.9	133.9	
September 1	85.1	82.8	89.7	100.3	104.6	91.8	107.1	113.9	85.1	106.3	113.3	119.7	119.9	78.5	112.4	121.7	106.1	121.4	113.1	129.0	121.1	120.2	125.2	132.0	132.2	141.8	133.5	
October 1	86.2	82.7	90.8	100.7	106.4	90.8	109.0	114.2	82.9	105.5	115.1	119.2	119.9	80.2	114.4	120.3	108.8	123.8	110.3	133.8	116.6	123.0	125.8	132.0	133.5	139.6	136.3	
November 1	87.2	85.5	91.5	101.2	109.2	90.8	109.2	114.2	80.5	105.9	116.6	119.3	120.3	82.3	116.6	119.0	108.6	129.3	103.1	138.4	113.7	126.5	126.4	133.3	134.5	137.7	138.0	
January 1	86.2	87.4	90.8	101.2	109.4	91.0	109.9	114.8	81.6	106.6	118.0	119.3	119.4	84.6	116.2	118.5	108.6	131.4	100.7	138.6	113.5	127.1	127.0	134.4	133.8	137.1	138.2	
FINAL	86.4	88.0	90.8	101.0	109.5	91.0	108.9	113.2	81.1	106.7	118.0	119.3	119.8	84.6	116.3	118.5	108.6	131.5	100.7	138.6	113.5	127.1	126.7	134.4	133.8	136.9		

Table 6. World Coarse Grain Production

	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001
	million metric tons																		
United States	137.1	237.7	274.9	252.8	215.9	149.7	221.4	230.7	218.6	277.4	186.5	284.9	210.0	265.7	260.4	271.5	263.2	273.1	261.9
Former USSR	99.0	90.5	100.0	105.9	113.7	97.5	104.8	99.4	80.4	95.3	95.6	79.2	57.4	52.0	67.9	38.0	40.5	49.4	61.7
Western Europe	86.2	103.6	101.4	94.0	93.3	99.5	102.2	97.6	104.3	93.8	96.1	86.6	88.5	103.8	109.4	105.6	102.6	107.6	105.9
China	92.7	96.2	82.3	87.0	95.8	94.2	93.5	111.7	112.3	108.4	117.8	114.3	124.5	141.3	114.7	144.2	137.2	114.0	118.4
Eastern Europe	67.1	72.8	65.5	73.9	63.9	61.3	60.2	51.4	64.7	43.2	44.5	46.9	51.4	50.0	59.0	51.0	54.7	35.9	51.8
Canada	21.0	22.0	23.9	25.5	25.5	19.7	23.5	24.8	21.8	19.6	24.0	23.4	24.1	28.2	25.1	26.6	26.8	24.3	22.9
India	34.1	31.4	25.8	26.6	23.5	31.3	34.6	32.6	25.9	36.8	31.0	30.1	29.8	34.3	30.9	31.7	30.5	31.6	30.9
Brazil	21.5	22.5	21.7	27.3	25.4	26.7	22.5	24.4	31.4	29.9	33.8	38.2	33.2	36.6	31.3	33.5	32.6	42.7	37.2
Argentina	17.4	18.9	17.4	13.0	13.1	7.3	8.3	10.8	14.5	14.1	13.3	13.9	14.1	18.9	24.7	17.8	21.5	19.5	16.1
South Africa	5.1	9.0	8.9	7.9	7.9	13.0	9.5	8.9	3.6	10.7	14.0	5.4	11.0	10.7	8.2	8.1	11.1	7.9	9.4
World	685.4	814.1	843.3	835.2	791.5	731.2	802.6	819.5	804.2	869.1	799.9	873.6	802.9	908.3	883.2	890.1	876.4	857.7	877.9
Excluding the U.S.	548.3	576.4	568.4	582.4	575.7	581.5	581.2	588.8	585.6	591.7	613.4	588.7	592.9	642.6	622.8	618.4	613.2	584.6	616

Source: USDA, FAS, World Crop Production, April 2002 and earlier issues.

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Grain Price OUTLOOK

SOYBEANS: FOCUS ON SOUTH AMERICAN AND U.S. SUPPLY AND CHINESE DEMAND

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Darrel Good

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Summary

Soybean prices during the first half of the 2001-02 marketing year were well below the prices during the same period last year, reflecting large South American and U.S. supplies. Prices moved above the average of the previous year in March 2002 as the market reacted to some crop concerns in South America and a record pace of domestic crush and exports. The price "rally" ran out of steam in April as the pace of U.S. exports slowed due to a record South American harvest and the disappearance of export sales to China.

The USDA's March *Prospective Plantings* report revealed farmer intentions to reduce U.S. soybean acreage in 2002 by 1.14 million acres. However, the uncertainty about CCC loan rates for the 2002 crop generated some uncertainty about acreage. Prices over the next few months will be influenced by revised estimates of the current South American harvest, U.S. production prospects, and Chinese buying patterns. Any delay in corn planting would reinforce ideas that U.S. soybean acreage might exceed March intentions, but corn planting appears to be off to a good start. Prices may become a little more volatile over the critical months of U.S. crop development. Worries about production are more common in the June through August time frame. For now, it appears that soybean prices will remain at a low level, perhaps for several more months.

Pace of Consumption to Slow Seasonally

The pace of U.S. soybean exports was large during the first quarter of the 2001-02 marketing year and was huge during the second quarter (December 2001 through February 2002) (Table 1). Exports during the first half of the year were 18 percent larger than during the first half of the 2000-01 marketing year, when shipments eventually reached a record 1 billion bushels. However, the pace of exports slowed considerably beginning in the last week of February and by April 11, 2002, cumulative shipments for the year were only 3.5 percent above exports of the previous year. New sales slowed to a trickle in late March but accelerated in early April. As of April 11, 94 million bushels of soybeans had been sold but not shipped, compared to 78 million bushels of outstanding sales on the same date last year. Outstanding sales were larger to Mexico, Japan and Taiwan. As of April 11, 2002, there were no outstanding sales of U.S. soybeans to China. The lack of sales reflected the new GMO policy implemented by China on March 21, 2002. At 155 million bushels, U.S. exports to China this year are 26 percent smaller than shipments of a year ago.

Even if the GMO issue is solved with China, U.S. exports will now find stiff competition from South American supplies. The USDA now estimates the current South American harvest at 2.81 billion bushels, 220 million larger than the 2001 harvest (calculated from Table 2). The

largest increase, 165 million bushels, is expected in Brazil. While the average yield in Brazil is expected to be slightly lower than the 2001 average yield, the USDA estimates a 13.8 percent increase in harvested acreage of soybeans (Table 11). The acreage estimate is higher than some private estimates and may be subject to revision.

The USDA continues to project U.S. soybean exports for the 2001-02 marketing year at 1.02 billion bushels, 2 percent above last year's record shipments. Shipments during the last 20 weeks of the marketing year will need to average just under 8 million bushels per week to reach that projection. Shipments during that same period last year averaged 8.9 million bushels per week. After such a torrid pace of exports this past winter (as Chinese buyers anticipated the problems with the new GMO policy), shipments may now struggle to reach the USDA projecting at 1.02 billion bushels, U.S. exports will be record large, but will account for only 47.6 percent of the world exports, down from 49 percent last year and 57 percent two years ago. For the first time, South American exports are expected to be larger than U.S. exports.

The domestic crush of U.S. soybeans was also record large during the first half of the 2001-02 marketing year. The crush totaled 874.3 million bushels, 4.2 percent above the previous record total of a year ago. The larger crush was driven by increasing domestic consumption and exports of both soybean oil and Meal. The pace of soybean meal exports is expected to slow considerably with the availability of South American supplies. While shipments during the first 6.5 months were up by 6.3 percent from shipments during the same period last year, the USDA now projects an increase for the year of only 1.2 percent, or 80,000 tons, to a total of 7.75 million tons. The meal trade story is the same as the soybean trade story, world trade this year is expected to be 2.78 million tons larger than last year's trade, with 80 percent of the increased exports coming from South America.

The USDA projects that domestic use of soybean meal during the current marketing year will be 2.5 percent larger than use of a year ago.

That projection is consistent with the increase in poultry and livestock numbers that is occurring this year. Total meal consumption (exports plus domestic) is projected at 40.23 million tons (Table 4). In our January newsletter, we had projected use at 40.35 million tons, but it appears that exports will fall short of that January projection.

Through the first half of the year, the average meal yield per bushel of soybeans crushed was 47.59 pounds, about one-third pound less than the average during the same period last year. Allowing for a 100,000 ton draw down in stocks and imports of 60,000 tons, assuming a yield of 47.89 pounds of meal per bushel of soybeans and using a consumption projection of 40.23 million tons, the domestic crush during the current year would need to be 1.684 billion bushels. That is equal to our January projection and obviously equal to the current USDA projection since the same consumption projections are used for soybean meal.

Over the past 10 years, the domestic crush during the first half of the marketing year has accounted for 51.1 to 53 percent of the annual total. The average was 51.9 percent. Based on that historical pattern, the crush of 874.3 million bushels during the first half of the current year projects to a total of 1.65 to 1.781 billion for the year. The average distribution of the past 10 years would project a total of 1.685 billion for the current year. The projection of 1.684 seems to be reasonable. With exports of 1.02 billion bushels; crush of 1.685 billion; and seed, feed, and residual use of 175 million, year ending stocks of soybeans would be at 262 million bushels (Table 5).

The average soybean oil yield during the first half of the 2001-02 marketing year was 11.1 pounds per bushel of soybeans crushed, about 0.1 pound below last year's average during the same period. The average yield in the last half of the year tends to be a little higher than the average during the first half of the year. The average yield to date projects to an annual average of 11.14 pounds. A crush of 1.684 billion bushels, then, should result in total soybean oil production of 18.76 billion pounds during the current marketing year (Table 6). Export prospects have deteriorated as the world

oilseed crop has increased in size. The USDA's April projection of world oilseed production in 2001-02 came in at 325.1 million tons, 12 million larger than last year's output (Table 7). The USDA now projects total soybean oil consumption during the current marketing year at 19.125 billion pounds. If that projection is correct, year ending stocks will remain at a lofty 2.59 billion pounds.

In summary, the current old-crop soybean situation can be described as one of abundant U.S. and world supplies being met with a seasonal slow down in consumption of U.S. soybeans. In addition, the disappearance of China from the export market adds an additional negative factor to the demand picture.

New Crop Prospects

Planted acreage of soybeans in 2001 was estimated at 74.105 million acres, 161,000 less than planted in 2000 (Table 8). The decline in acreage was 2.552 million less than indicated in March 2001 and 1.311 million less than indicated in June 2001. Regionally, soybean acreage continued to expand in the midwest in 2001, but declined dramatically in southern growing areas, particularly in Arkansas, Louisiana, and Mississippi.

The USDA's March 2002 *Prospective Plantings* report revealed U.S. producer intentions to plant 72.966 million acres of soybeans in 2002 (Table 8). At that level, acreage would be 1.139 million less than planted last year and would be at the lowest level since 1998. The planned reductions are in the midwest, where intentions fall 1.1 million acres below last year's plantings (Table 9). Intentions in Illinois, Indiana, and Iowa are all 200,000 acres below last year's plantings. Intentions are down by 350,000 acres in South Dakota, but up by 450,000 in North Dakota.

The planned reduction in soybean acreage is larger than expected by the market. It is generally believed that producers based intentions on ideas that the CCC loan rate for the 2002 crop might be below that for the 2001 crop. With the delay in the passage of the new farm bill and the apparent reluctance of the Secretary of Agriculture to change loan rates, it

is not clear how loan rates will be changed, if at all, for the 2002 crop. As a result, there will be some continued uncertainty about soybean acreage for 2002 due to uncertainty about farm programs, about spring planting condition, and about the total planted acreage of all crops in 2002. As we have discussed in other places, crop land area declined significantly in 2001 and March intentions suggest that total acreage will not rebound in 2002. There is some speculation that total crop land area will exceed March intentions, making room for more soybean acreage without any shifting from other crops. The market is also aware of the nine consecutive year from 1991 through 1999 when actual acreage of soybeans exceeded March intentions.

For now, we are inclined to use a slightly larger acreage estimate in making supply projections for the 2002 crop year. Planted acreage may be near 73.5 million, suggesting harvested acreage of 72.4 million under favorable growing conditions in 2002. Based on recent history, the difference between planted and harvested acreage has varied from 811,000 (1999) to 2.778 million (1993). Excluding 1993, the average difference between planted and harvested acreage from 1991 through 2001 was 1.13 million acres (Table 8).

The average U.S. soybean yield from 1996 through 2001 varied from a low of 36.6 bushels (1996) to a high of 39.6 bushels (2001). That range of 3 bushels per acre is relatively low compared to recent history. In the six years from 1990 through 1995 the annual yield varied by 8.8 bushels and in the six years from 1984 through 1989, the yield varied by 7.1 bushels (Table 10). The recent stability in annual average yields has also occurred at relatively high levels, although the 1994 record of 41.4 bushels still stands. The apparent trend increase in soybean yields during the 1980s and early 1990s now appears to have ceased. That is, average yields have been relatively flat since 1992 (excluding the flood-reduced crop of 1993). For 2002, a trend yield would be near 40 bushels per acre, suggesting a potential harvest of about 2.9 billion bushels, or roughly equivalent to the size of the 2001 harvest. The total supply of U.S. soybeans available for using during the 2002-03 crop year projects to a

record 3.161 billion bushels, 20 million larger than the supply at the beginning of the current marketing year.

Domestic consumption of soybeans during the 2002-03 marketing year should be supported by expansion in soybean meal consumption. Meal export prospects hinge on a number of factors, including the size of the 2003 South American soybean crop. At this time, there is no reason to expect a decline in South American soybean area. A 2.5 percent increase in domestic meal consumption and stagnant exports would require a crush of 1.72 billion bushels during the 2002-03 marketing year.

U.S. soybean exports during the year ahead will be partly determined by Chinese import policy and the size of the South American harvest in 2003. Optimistically, GMO issues with China will be resolved by the fall of 2002, allowing U.S. soybean shipments to get back on track. If so, U.S. exports could repeat this year's record performance, even with a slightly larger South American crop in 2003. With exports of 1.025 billion bushels, stocks might be reduced to about 240 million bushels by September 2003 (Table 5).

Price Prospects

The average cash price of soybeans in central Illinois during the first seven months of the 2001-02 marketing year was \$4.31 per bushel, about \$.30 below the average during the same period last year. The lower price reflects a lower price of soybean meal. The average price of 48 percent protein meal at Decatur, Illinois from October 2001 through March 2002 was \$159.55, nearly \$16 per ton below the average during the same period last year. The average price of soybean oil during the same period in the same market was 14.74 cents per pound this year and 13.13 cents per pound last year.

Soybean prices (Central Illinois) moved from a harvest low of \$3.985 to a high of \$4.635 on March 28, 2002. Price movement became more two-sided in April as the market responded to the lack of sales to China, mixed expectations about the final size of the South American harvest, and confusion about acreage prospects in the U.S. Price volatility is expected to continue for the next several months as U.S. production prospects unfold and the Chinese import policy is worked out. Historically, harvest time price lows (in the cash market) have been followed by crop year price peaks in the May through July time frame. The spring/summer high has routinely been about \$1.25 above the harvest low (central Illinois cash prices). A seasonal peak in prices during the May through July time frame is generally expected this year. Whether or not that price peak exceeds the \$5.00 mark will be a function of crop prospects. Plans should be made to price remaining old crop supplies on spring/summer rallies. Some consideration might be given to a routine averaging strategy over the May through July time period. Unless production falls well short of current prospects, prices could continue to average under \$5.00 for another year.



Issued by Darrel Good
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Table 1. Soybean Quarterly Balance Sheet

	1982-83	1983-84	1984-85	1985-86	1986-87	1987-88	1988-89	1989-90	1990-91	1991-92	1992-93	1993-94	1994-95	1995-96	1996-97	1997-98	1998-99	1999-00	2000-01	2001-02
	million bushels																			
September 1 stocks	254.5	344.6	175.7	316.1	536.4	436.4	302.5	182.0	239.1	329.0	278.4	292.3	209.1	334.8	183.5	131.8	199.8	348.5	290.2	247.7
Production	2,190.3	1,635.8	1,860.9	2,099.1	1,942.6	1,937.7	1,548.8	1,923.8	1,925.9	1,986.6	2,190.4	1,869.7	2,514.9	2,174.3	2,380.3	2,688.8	2,741.0	2,653.8	2,757.8	2,890.6
TOTAL	2,444.8	1,980.4	2,036.6	2,415.2	2,479.0	2,374.1	1,855.3	2,108.8	2,167.0	2,319.6	2,470.8	2,167.0	2,730.0	2,514.1	2,572.8	2,825.6	2,943.8	3,006.3	3,052.0	3,143.3
September-November																				
Crush	284.2	269.6	253.7	267.5	295.8	293.4	275.4	273.0	304.1	322.0	328.2	329.6	346.2	351.4	360.6	395.8	409.3	426.7	420.9	427.7
Export	245.9	190.6	153.4	166.5	216.5	260.8	138.3	168.5	120.1	167.1	235.9	176.0	230.9	233.6	289.7	365.3	268.5	297.8	315.5	348.3
Seed, residual	-36.2	48.5	14.8	21.5	10.1	64.6	74.8	56.6	58.8	51.5	70.7	79.8	50.9	95.7	97.4	56.9	78.5	98.9	75.6	91.7
TOTAL	493.9	508.7	421.9	455.4	522.4	618.8	488.5	498.1	483.0	540.6	634.8	585.4	628.0	681.7	747.7	826.2	758.8	823.4	812.0	867.7
December 1 stocks	1,950.9	1,471.7	1,614.7	1,959.8	1,956.6	1,755.3	1,366.8	1,610.7	1,684.0	1,779.0	1,836.0	1,573.6	2,102.0	1,833.4	1,825.1	1,999.4	2,186.0	2,182.9	2,240.0	2,275.6
Crush	314.9	262.5	276.4	281.9	320.1	317.3	286.3	304.3	301.4	323.1	335.2	327.2	371.8	359.0	400.7	443.1	408.6	408.1	417.9	446.6
Export	263.6	234.6	230.2	270.9	233.7	258.9	197.0	217.0	179.7	259.6	255.9	212.7	283.5	278.7	333.1	306.4	243.1	315.4	338.4	422.8
Seed, residual	26.6	18.8	47.0	35.7	63.8	33.0	-6.7	33.9	12.8	19.6	29.3	12.1	76.5	5.3	35.5	46.9	77.0	63.2	79.8	70.2
TOTAL	605.1	515.9	553.6	588.5	617.6	609.2	476.6	555.2	493.9	602.3	620.4	552.0	731.8	643.0	769.3	796.5	728.7	786.7	836.1	939.6
March 1 stocks	1,345.8	955.8	1,061.1	1,371.3	1,339.0	1,146.1	890.2	1,055.5	1,190.1	1,177.3	1,215.6	1,021.6	1,370.2	1,190.4	1,055.8	1,202.9	1,457.3	1,396.0	1,403.9	1,336.00
Crush	260.1	240.0	258.2	262.3	297.2	308.3	270.1	290.7	295.5	304.0	325.4	320.4	361.7	334.0	355.7	404.9	396.4	373.9	405.4	
Export	216.2	204.2	153.4	226.4	159.3	185.0	135.5	153.2	146.9	148.2	186.7	120.6	216.6	188.5	165.9	120.0	161.9	205.8	220.8	
Seed, residual	78.9	39.9	41.1	33.7	45.7	-2.5	20.1	15.7	24.2	29.4	20.1	25.3	0.0	44.9	34.3	84.4	50.4	58.9	69.5	
TOTAL	555.2	484.1	452.7	522.4	502.2	490.8	425.7	459.6	466.6	481.6	532.2	466.3	578.3	567.4	555.9	609.2	608.7	621.8	695.7	
June 1 stocks	790.6	471.7	608.4	848.9	836.8	655.3	484.5	595.9	723.5	695.7	683.4	555.3	791.9	622.8	499.9	593.7	848.6	774.4	708.2	
Crush	248.8	210.6	242.1	241.1	265.5	255.5	225.8	278.4	285.9	304.6	290.0	298.4	325.5	324.9	318.7	353.2	375.4	370.1	397.0	
Export	179.5	113.6	61.1	76.3	147.4	97.6	56.2	84.2	110.4	109.0	91.0	79.7	107.0	150.5	93.0	78.7	127.5	171.6	123.7	
Seed, residual	17.7	-28.2	-10.9	-4.9	-12.5	0.3	0.5	-5.8	-1.8	3.1	10.1	-31.9	24.6	-35.2	-43.6	-37.9	-1.3	-55.0	-60.2	
TOTAL	446.0	296.0	292.3	312.5	400.4	352.8	282.5	356.8	394.5	416.7	391.1	346.2	457.1	439.6	368.1	393.9	501.6	486.7	460.5	
September 1 stocks	344.6	175.7	316.1	536.4	436.4	302.5	182.0	239.1	329.0	278.4	292.3	209.1	334.8	183.5	131.8	199.8	348.5	290.2	247.7	
Annual																				
Crush	1,108.0	982.7	1,030.4	1,052.8	1,178.7	1,174.5	1,057.6	1,146.4	1,186.9	1,253.7	1,278.8	1,275.6	1,405.2	1,369.4	1,435.7	1,595.1	1,589.7	1,578.8	1,641.2	
Export	905.2	743.0	598.1	740.1	756.9	801.7	527.0	622.9	557.1	683.9	769.5	589.0	838.0	851.2	881.7	870.4	801.0	973.8	998.4	
Seed, residual	87.0	79.0	92.0	85.9	107.0	95.4	88.7	100.4	94.0	103.6	130.2	85.3	152.0	110.4	123.6	160.3	204.6	166.2	164.5	
TOTAL	2,100.2	1,804.7	1,720.5	1,878.8	2,042.6	2,071.6	1,673.3	1,869.7	1,838.0	2,041.2	2,178.5	1,949.9	2,397.0	2,330.9	2,441.0	2,625.8	2,595.3	2,718.80	2,803.10	

Table 2. Soybean Production by Country

Year	United States	Brazil ^a	Argentina ^a	Paraguay ^a	China	Other	World	All Foreign
million bushels								
1970	1,127	76	2	3	254	165	1,627	500
1971	1,176	135	3	4	290	126	1,734	558
1972	1,283	184	10	4	320	66	1,867	584
1973	1,547	289	18	7	367	64	2,292	745
1974	1,215	363	18	8	349	54	2,007	792
1975	1,547	413	26	10	367	46	2,409	862
1976	1,288	460	51	14	242	128	2,183	895
1977	1,762	350	99	12	266	154	2,643	881
1978	1,870	557	136	20	278	167	2,847	977
1979	2,261	376	132	21	274	191	3,255	994
1980	1,798	558	129	22	292	176	2,975	1,177
1981	1,989	471	152	22	342	186	3,162	1,173
1982	2,190	542	154	19	332	200	3,437	1,247
1983	1,636	571	257	20	359	213	3,056	1,420
1984	1,861	672	248	35	356	248	3,421	1,561
1985	2,099	518	268	22	386	272	3,565	1,466
1986	1,943	636	257	35	427	303	3,601	1,658
1987	1,938	662	356	40	457	359	3,812	1,874
1988	1,549	852	235	60	428	387	3,506	1,957
1989	1,924	747	395	58	376	445	3,945	2,020
1990	1,926	579	423	48	404	446	3,826	1,900
1991	1,987	709	410	48	357	435	3,946	1,959
1992	2,188	827	417	64	378	434	4,308	2,120
1993	1,871	908	456	66	563	454	4,318	2,447
1994	2,517	952	459	81	588	460	5,057	2,540
1995	2,177	887	457	88	496	487	4,591	2,415
1996	2,380	1,003	412	102	486	474	4,857	2,477
1997	2,689	1,194	717	110	551	545	5,806	3,117
1998	2,741	1,150	735	112	557	577	5,872	3,131
1999	2,654	1,257	779	107	525	527	5,875	3,221
2000	2,758	1,433	1,021	129	566	531	6,438	3,680
2001	2,891	1,598	1,084	129	568	527	6,789	3,898

^a Harvested in the spring of the following year.

Table 3. South American Soybean Area, Yield and, Production, 1988 to Date

Year	Brazil			Argentina			Paraguay		
	Area mil. ha.	Yield t/ha.	Production mil.t	Area mil. ha.	Yield t/ha.	Production mil. t.	Area mil. ha.	Yield t/ha.	Production mil. t.
1988-89	12.15	1.94	23.60	4.00	1.63	6.50	0.85	1.90	1.62
1989-90	11.55	1.76	20.34	4.95	2.17	10.75	0.98	1.61	1.58
1990-91	9.75	1.62	15.75	4.75	2.42	11.50	0.89	1.46	1.30
1991-92	9.70	1.99	19.30	4.80	2.32	11.15	0.90	1.44	1.30
1992-93	10.63	2.12	22.50	4.90	2.32	11.35	0.98	1.79	1.75
1993-94	11.44	2.16	24.70	5.40	2.30	12.40	1.05	1.71	1.80
1994-95	11.68	2.22	25.90	5.70	2.19	12.50	1.10	2.00	2.20
1995-96	10.95	2.21	24.15	5.98	2.08	12.43	1.10	2.18	2.40
1996-97	11.80	2.27	26.80	6.26	1.81	11.20	1.20	2.31	2.77
1997-98	13.00	2.50	32.50	6.95	2.80	19.50	1.20	2.49	2.99
1998-99	12.90	2.43	31.30	8.17	2.45	20.00	1.20	2.54	3.05
1999-00	13.60	2.51	34.20	8.58	2.47	21.20	1.15	2.52	2.90
2000-01	13.97	2.79	39.00	10.40	2.67	27.80	1.25	2.80	3.50
2001-02	15.90	2.74	43.50	11.30	2.61	29.50	1.30	2.54	3.30

Source: USDA, FAS

Table 4. Soybean Meal Balance Sheet -- Years Beginning October 1

	1989-90	1990-91	1991-92	1992-93	1993-94	1994-95	1995-96	1996-97	1997-98	1998-99	1999-00	2000-01	2001-02
	thousand tons												
Beginning stocks	173	318	285	230	204	150	223	212	210	218	330	293	383
Production	27,719	28,325	29,831	30,364	30,514	33,270	32,527	34,210	38,176	37,792	37,591	39,389	40,070
TOTAL ^a	27,982	28,688	30,183	30,687	30,788	33,483	32,825	34,524	38,443	38,109	37,970	39,733	40,546
Domestic	22,291	22,934	23,007	24,251	25,283	26,542	26,611	27,320	28,895	30,657	30,345	31,687	32,480
Exports	5,319	5,469	6,946	6,232	5,356	6,717	6,002	6,994	9,330	7,122	7,332	7,662	7,750
TOTAL	27,610	28,403	29,953	30,483	30,639	33,260	32,613	34,314	38,225	37,779	37,678	39,349	40,230
Ending stocks	318	285	230	204	150	223	212	210	218	330	293	383	283
Price ^b	\$186.48	\$181.38	\$189.21	\$193.75	\$192.86	\$162.55	\$235.92	\$270.90	\$185.28	\$138.55	\$167.70	\$173.60	\$157.50

^a Includes imports^b Bulk, Decatur, Illinois 48%

Table 5. Soybean Balance Sheet -- Years Beginning September 1

	1989-90	1990-91	1991-92	1992-93	1993-94	1994-95	1995-96	1996-97	1997-98	1998-99	1999-00	2000-01	2001-02	2002-03 ^a
	million bushels													
Carryin	182	239	329	278	292	209	335	183	132	200	348	290	248	262
Production	<u>1,924</u>	<u>1,926</u>	<u>1,987</u>	<u>2,190</u>	<u>1,870</u>	<u>2,515</u>	<u>2,174</u>	<u>2,380</u>	<u>2,689</u>	<u>2,741</u>	<u>2,654</u>	<u>2,758</u>	<u>2,891</u>	<u>2,896</u>
TOTAL ^b	2,109	2,167	2,320	2,470	2,168	2,729	2,514	2,573	2,826	2,944	3,006	3,052	3,141	3,161
Crush	1,146	1,187	1,254	1,279	1,276	1,405	1,369	1,436	1,597	1,590	1,578	1,641	1,684	1,720
Export	623	557	684	770	589	838	851	882	870	805	975	1,000	1,020	1,025
Seed, feed, residual	<u>101</u>	<u>94</u>	<u>103</u>	<u>129</u>	<u>94</u>	<u>151</u>	<u>111</u>	<u>123</u>	<u>159</u>	<u>201</u>	<u>163</u>	<u>163</u>	<u>175</u>	<u>176</u>
TOTAL	1,870	1,838	2,041	2,178	1,954	2,394	2,331	2,441	2,626	2,596	2,716	2,804	2,880	2,921
Carryout	239	329	278	292	209	335	183	132	200	348	290	248	262	240
U.S. Average price	\$5.70	\$5.75	\$5.58	\$5.60	\$6.40	\$5.48	\$6.77	\$7.35	\$6.47	\$4.93	\$4.63	\$4.54	\$4.25	\$4.75

^a Projected^b Includes Imports

Table 6. Soybean Oil Balance Sheet -- Years Beginning October 1

	1989-90	1990-91	1991-92	1992-93	1993-94	1994-95	1995-96	1996-97	1997-98	1998-99	1999-00	2000-01	2001-02 ^c
	million pounds												
Beginning stocks	1,715	1,305	1,786	2,239	1,555	1,103	1,137	2,015	1,520	1,382	1,520	1,995	2,877
Production	13,003	13,406	14,346	13,778	13,951	15,613	15,240	15,752	18,143	18,081	17,825	18,434	18,760
TOTAL ^a	14,740	14,728	16,132	16,027	15,574	16,733	16,472	17,821	19,723	19,546	19,427	20,502	21,715
Domestic	12,082	12,163	12,246	13,053	12,941	12,916	13,465	14,263	15,262	15,655	16,056	16,219	16,975
Exports	1,353	779	1,647	1,419	1,529	2,680	992	2,037	3,079	2,372	1,376	1,406	2,150
TOTAL	13,435	12,942	13,893	14,472	14,471	15,596	14,457	16,300	18,341	18,027	17,432	17,625	19,125
Ending stocks	1,305	1,786	2,239	1,555	1,103	1,137	2,015	1,520	1,382	1,520	1,995	2,877	2,590
Average Price ^b	22.3¢	21.0¢	19.1¢	21.4¢	27.1¢	27.6¢	24.75¢	22.5¢	25.8¢	19.9¢	15.6¢	14.2¢	15.0¢

^a Includes imports^b Bulk, Decatur, Illinois 44%^c Projected

Table 7. World Oilseed and Soybean Production

Year	Major Oilseeds			Soybeans		
	United States	Ex-United States	Total	United States	Ex-United States	Total
million metric tons						
1977-78	56.5	93.7	150.2	47.95	23.98	71.93
1978-79	58.6	92.0	150.6	50.86	26.62	77.48
1979-80	72.4	98.1	170.5	61.72	31.79	93.51
1980-81	55.8	99.8	155.6	48.77	32.20	80.97
1981-82	64.0	105.5	169.5	54.13	31.93	86.06
1982-83	68.2	110.1	178.3	59.61	33.96	93.57
1983-84	50.4	115.1	165.5	44.52	38.64	84.16
1984-85	59.2	131.7	191.1	50.64	42.50	93.14
1985-86	65.4	130.8	196.2	57.13	39.92	97.05
1986-87	59.4	135.0	194.4	52.87	45.21	98.08
1987-88	60.6	150.0	210.6	52.75	51.06	103.81
1988-89	50.3	153.9	204.2	42.15	53.49	95.64
1989-90	59.3	153.1	212.4	52.35	55.02	107.37
1990-91	60.6	155.1	215.7	52.42	51.57	103.99
1991-92	64.3	160.0	224.3	54.07	53.31	107.38
1992-93	68.4	158.9	227.4	59.61	57.69	117.30
1993-94	59.5	168.4	227.9	50.92	66.58	117.50
1994-95	79.7	181.2	260.9	68.49	69.14	137.63
1995-96	69.1	190.6	259.7	59.24	65.72	124.96
1996-97	74.8	187.0	261.8	64.78	67.40	132.18
1997-98	83.1	203.9	287.0	73.18	84.90	158.07
1998-99	84.4	210.3	294.7	74.60	85.21	159.81
1999-00	82.3	221.1	303.4	72.22	87.68	159.90
2000-01	84.9	228.2	313.1	75.06	100.15	175.21
2001-02	90.0	235.1	325.1	78.67	106.09	184.75

¹WASDE April 10, 2002 and earlier.

Table 8. Soybean Planting Intentions, Actual Plantings, and Acres Harvested

Year	January Intentions	Mar./April Intentions	June/July Intentions	Actual	Harvested Acreage
million acres					
1975	57.5	56.6	54.6	54.6	53.8
1976	50.9	49.3	49.0	50.3	49.4
1977	53.1	55.7	59.0	59.0	57.6
1978	63.9	63.7	64.0	64.7	63.3
1979	66.3	68.8	71.6	71.4	70.3
1980	71.6	71.3	70.3	69.9	67.8
1981	----	69.8	68.5	67.5	66.2
1982	69.5 ^a	---	72.2	70.9	69.4
1983	68.8 ^a	65.8 ^b	63.3	63.8	62.5
1984	65.2 ^a	---	68.0	67.8	66.1
1985	64.4 ^a	---	63.3	63.1	61.6
1986	---	62.0	61.8	60.4	58.3
1987	---	56.9	58.7	58.180	57.172
1988	---	58.0	58.5	58.840	57.373
1989	---	61.7	61.3	60.820	59.282
1990		59.42	58.05	57.795	56.283
1991	58.5	57.12	59.78	59.180	58.169
1992		57.42	59.03	59.180	58.233
1993		59.30	61.58	60.085	57.307
1994		61.12	61.78	61.620	60.809
1995		61.45	63.105	62.495	61.544
1996		62.478	63.895	64.195	63.349
1997		68.800	70.850	70.005	69.110
1998		72.000	72.720	72.025	70.441
1999		73.105	74.205	73.730	72.446
2000		74.871	74.501	74.266	72.408
2001		76.657	75.416	74.105	73.000
2002		72.966			

^a February 1

^b May 1

Table 9. Planted Acres of Soybeans by Region

Region	Western Corn Belt ^a		Eastern Corn Belt ^b		Mid-South ^c		Southeast ^d		East Coast ^e		United States	
	000 acres	%	000 acres	%	000 acres	%	000 acres	%	000 acres	%	000 acres	%
1976	16,145	32.1	14,530	28.9	13,630	27.1	4,799	9.6	1,122	2.3	50,226	100.0
1979	23,370	32.7	19,620	27.5	18,470	25.9	8,360	11.7	1,591	2.2	71,411	100.0
1986	24,875	41.2	18,300	30.3	10,995	18.2	4,680	7.8	1,535	2.5	60,385	100.0
1987	24,120	41.5	18,580	31.9	10,330	17.8	3,675	6.3	1,475	2.5	58,180	100.0
1988	24,310	41.3	18,680	31.7	10,460	17.8	3,810	6.5	1,580	2.7	58,840	100.0
1989	24,790	40.8	19,020	31.3	10,750	17.7	4,460	7.3	1,800	2.9	60,820	100.0
1990	23,750	41.1	18,490	32.0	10,270	17.2	3,650	6.3	1,635	2.8	57,795	100.0
1991	26,035	44.0	19,420	32.8	8,990	15.2	3,005	5.1	1,730	2.9	59,180	100.0
1992	25,400	42.9	20,000	33.8	8,980	15.2	2,915	5.2	1,715	2.9	59,180	100.0
1993	25,300	42.1	20,410	34.0	9,690	16.1	2,915	4.9	1,770	2.9	60,085	100.0
1994	27,220	44.1	20,510	33.3	9,220	15.0	2,875	4.7	1,795	2.9	61,620	100.0
1995	28,210	45.1	21,130	33.8	9,130	14.7	2,290	3.6	1,735	2.8	62,495	100.0
1996	28,250	44.0	22,370	34.8	9,390	14.6	2,565	4.0	1,620	2.5	64,195	100.0
1997	32,450	46.4	22,610	32.3	10,390	14.8	2,777	4.0	1,778	2.5	70,005	100.0
1998	33,700	46.8	23,650	32.8	10,180	14.1	2,690	3.8	1,805	2.5	72,025	100.0
1999	35,800	48.5	24,100	32.7	9,700	13.2	2,360	3.2	1,770	2.4	73,730	100.0
2000	37,050	49.9	24,050	32.4	9,070	12.2	2,230	3.0	1,926	2.6	74,266	100.0
2001	37,700	50.9	24,650	33.3	7,695	10.4	2,145	2.9	1,915	2.5	74,105	100.0
2002	37,200	51.0	24,050	33.0	7,620	10.4	2,190	3.0	1,906	2.6	72,966	100.0

^a Iowa, Kansas, Minnesota, Missouri, Nebraska, North Dakota, South Dakota^b Illinois, Indiana, Michigan, Ohio, Wisconsin^c Arkansas, Kentucky, Louisiana, Mississippi, Oklahoma, Tennessee, Texas^d Alabama, Florida, Georgia, North Carolina, South Carolina^e Delaware, Maryland, New Jersey, New York, Pennsylvania, Virginia, West Virginia

Table 10. United States Soybean Yield Estimates

	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001
										million bushels													
August 1	30.3	27.4	30.2	32.3	29.7	30.5	31.5	32.9	34.7	26.0	32.3	32.5	31.8	35.8	33.8	37.6	36.4	36.3	39.5	39.5	39.2	40.7	38.7
September 1	30.9	27.0	31.2	32.6	24.9	30.3	33.2	33.1	34.0	25.9	32.0	32.4	31.0	35.9	34.0	38.2	37.0	35.8	39.3	40.6	37.9	39.5	38.2
October 1	31.5	26.0	31.5	32.4	24.7	29.5	33.9	33.3	34.2	26.4	32.6	32.3	33.0	36.3	33.7	40.5	35.5	37.0	39.0	38.7	37.0	38.7	39.2
November 1	31.8	26.5	31.0	32.4	25.0	28.5	34.2	33.8	34.1	26.6	32.8	33.7	33.5	37.3	32.7	41.5	35.4	37.9	39.2	38.6	36.7	38.0	39.4
January 1	32.2	26.8	30.4	32.2	25.7	28.2	34.1	33.8	33.7	26.8	32.4	34.0	34.3	37.6	32.0	41.9	34.9	37.6	39.0	38.9	36.5	38.1	39.6
FINAL	32.1	26.5	30.1	31.5	26.2	28.1	34.1	33.3	33.9	27.0	32.3	34.1	34.2	37.6	32.6	41.4	35.3	37.6	38.9	38.9	36.6	38.1	39.6

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Grain Price OUTLOOK

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CORN: CROP PROSPECTS TO DOMINATE PRICES

JULY 2002

Darrel Good

2002 – No. 5

Summary

The USDA's June *Grain Stocks* report confirmed a rapid rate of domestic corn consumption during the third quarter of the 2001-02 marketing year. Combined with the recovery in exports, the large domestic use resulted in June 1 stocks of 3.594 billion bushels, 330 million less than on the same date last year.

Somewhat surprisingly, the June 28 USDA *Acreage* report indicated that 2002 U.S. corn plantings were very near March intentions. At 78.947 million acres, plantings were only 100,000 less than indicated in March and nearly 3.3 million larger than in 2001. The acreage estimate will be revised in later reports, probably beginning with the August *Crop Production* report. In general, the market expects that corn plantings may be less than indicated in the June report.

A wet spring in the eastern corn belt delayed corn planting in those areas beyond the optimal planting date. Hot, dry weather in late June and early July also stressed the corn crop in many areas. As pollination time approaches, expectations about the U.S. average corn yield in 2002 are generally being reduced. As a result, corn prices have moved higher and will likely remain volatile through the summer and early fall.

Significant concerns about the growing crop, or actual crop damage, often results in a summer or early fall price peak. That scenario appears to be unfolding this year.

Corn Inventories on the Decline

Corn inventories on June 1, 2002 totaled 3.594 billion bushels, 330 million less than stocks of a year ago (Table 1). Stocks were roughly equal to those of two and three years ago. The inventory estimate implies that corn consumption during the third quarter of the 2001-02 marketing year was a record 2.205 billion bushels, 83 million more than use during the same quarter last year. Exports were 54 million larger than during the same period last year, while domestic use was 30 million larger. All of the increase in domestic use was in the industrial category, reflecting expanding ethanol production.

Since June 1, U.S. corn exports have remained above the pace of a year ago. As of July 11, the USDA's export inspection report revealed cumulative shipments of 1.581 billion bushels, 2.2 percent more than cumulative exports of a year ago. Much of that increase was represented by larger shipments to Egypt and to Canada. The USDA continues to project that exports for the year (ending

August 1, 2002) will be about 10 million bushels less than exports of a year ago. While the current pace suggests that exports could exceed those of a year ago, there are at least two caution signs. First, China continues to export more corn than expected and second, exports were very large during July and August of 2001. For the four weeks ended July 11, 2002, U.S. corn shipments averaged 37.9 million bushels per week. To reach the USDA projection, shipments during the rest of July and in August need to average 47 million per week. As of July 4, unshipped sales of U.S. corn totaled 234 million bushels, down from about 291 million on the same date last year. We are reluctant to increase the projection of exports for the year above the USDA's projection of 1.925 billion bushels. Unless the pace of shipments accelerate soon, exports may fall a bit short of that projection.

Domestic feed and residual use of corn during the first three quarters of the current marketing year totaled about 4.9 billion bushels, identical to the amount used during the same period last year. For the entire 2001-02 marketing year, the USDA projects feed and residual use at 5.825 billion bushels, 23 million less than during the 2000-01 marketing year. Use during the fourth quarter (summer) of last year was a record 956 million bushels, 66 million more than during the same period two years ago.

Feed use this summer will be supported by a larger number of hogs, but will be limited by fewer numbers of cattle on feed. Wheat feeding is influenced heavily by quality of the crop, but the current higher prices suggest a slow down in wheat feeding this summer. The USDA's projection of 5.825 billion bushels of feed and residual use this year implies, a 23 million bushel reduction in feeding this summer compared to last summer. The actual reduction may be less. We project

feed and residual use at 5.84 billion bushels.

Seed, food, and industrial use of corn in the domestic market during the first three quarters of the 2001-02 marketing year totaled a record 1.515 billion bushels. The 4 percent increase over last year's rate of consumption is being driven by increased ethanol production. That expansion will continue through the final quarter of the year bring use for the year to a projected 2.045 billion bushels.

Based on the late season projection of use, stocks of corn in the U.S. at the end of the current marketing year will total 1.606 billion bushels (Table 2). Year-ending stocks will be at the lowest level in 4 years. Stocks will be at an adequate level if the 2002 crop is large, but do not provide much buffer for a short-crop. Similarly, world inventories of all coarse grains will be reduced for the third consecutive year.

Production Prospects for 2002

The USDA's *Acreage* report indicated that farmers planted, or intended to plant, 78.947 million acres of corn in 2002. That figure is only 100,000 acres less than indicated in March and is 3.195 million more than planted in 2001 (Table 3). Compared to March intentions, the June report showed increased acreage in Illinois (300,000), Iowa (200,000), Minnesota (400,000), South Dakota (100,000), and Texas (100,000). Less corn acreage was reported for Indiana (600,000), Kansas (150,000), and Ohio (350,000).

Compared to planted acreage in 2001, corn acreage increased in Illinois (600,000), Iowa (500,000), Michigan (150,000), Minnesota (600,000), Missouri (100,000), Nebraska (300,000), South Dakota (300,000), Texas (400,000), and Wisconsin (200,000). Acreage declined

in Indiana (400,000), Kansas (300,000), and Ohio (200,000). The June report indicated that corn acreage in 2002 will be 604,000 acres less than planted in 2000 and 1.218 million less than the recent peak acreage of 1998 (Table 4).

The final estimate of planted acreage often deviates from the June estimate. Since 1997, these deviations have generally been small, ranging from 28,000 acres (2000) to 690,000 acres (1997). It is noteworthy, however, that the final estimate was below the June estimate in each of the past 7 years and 9 of the past 10 years (Table 3). Due to the lateness of planting in the eastern corn belt and likelihood of some late switching to soybeans, as well as some abandoned acreage, we expect the final estimate of planted acreage to be near 78.8 million acres, nearly 150,000 less than indicated in June.

The difference between planted acreage of corn and acreage harvested for grain over the past 10 years (excluding the flood year of 1993) varied from 6.269 million acres (1995) to 7.576 million acres (1998). In 4 of the past 5 years, the difference was very near 6.9 million. Adverse weather conditions in 2002 are expected to result in a slight increase in abandoned acreage. We project harvested acreage for grain at 71.7 million, 7.1 million less than planted acreage for all purposes. That projection is 381,000 acres below the USDA's June projection. It is difficult to anticipate the average U.S. corn yield for the 2002 crop. However, conditions as of mid-July suggested that the average yield could drop below trend value in 2002. The crop was generally planted late in the eastern corn belt due to excessive precipitation. Weather turned warmer and drier from mid-June to mid-July, stressing crops in many areas. Precipitation in the first half of July was scattered and the forecast for the last half of July called for less than

ideal conditions as the bulk of the crop moved to the reproductive stage. The USDA's weekly report of crop conditions confirmed steadily deteriorating ratings through mid-July. As of July 14, only 49 percent of the crop was rated in either good or excellent condition. A year ago, 65 percent of the crop was rated in those two categories.

Based on actual yields from 1960 through 2001, the USDA estimates the 2002 U.S. trend yield at about 138 bushels per acre. Based on crop condition ratings and other subjective information, the USDA's World Agricultural Outlook Board projected the 2002 average yield at 135.8 bushels per acre in its July 11 update of supply and consumption prospects. Yield uncertainty will likely continue into the early fall. The USDA will release the first objective yield projection on August 12. History indicates that the final yield estimate can differ significantly from the August projection, depending on late season weather conditions. The lateness of the crop in the eastern corn belt provides an added challenge for early season yield projections. The odds of a significantly lower average yield exceed the chances of a much higher yield.

The last time that the U.S. average corn yield dropped significantly below trend value was in 1995. The average yield that year was only 113.5 bushels per acre. At this juncture, the 2001 average yield is not expected to drop as low as in 1995. Less than ideal conditions in 1996 and 1997 produced average yields near 127 bushels per acre. Our tendency at this point is to expect a 2002 average yield near 132 bushels per acre. The actual average yield could deviate significantly from that level, depending on weather conditions through September.

Harvested acreage of 71.7 million acres combined with an average yield of 132 bushels per acre would result in a 2002

crop of 9.464 billion bushels. That compares to the USDA's World Agricultural Outlook Board's July "working number" of 9.79 billion bushels. It bears repeating that yield and production prospects will continue to be up in the air for several more weeks.

Domestic Use to Remain Large in 2002-03

Domestic use of corn is set to continue the pattern of growth experienced over the last several years. The growth is expected to primarily reflect expansion in ethanol production. Corn used for fuel alcohol production was first reported by the USDA for the 1979-80 marketing year. Use was estimated at 10 million bushels that year. Use has grown steadily since then, declining only in years of short crops and high prices. For the 2000-01 marketing year, use for fuel alcohol production was estimated at 627.5 million bushels. Use for the current year is projected at 690 million bushels. Use during the 2002-03 marketing year is projected at 790 million bushels, an increase of nearly 15 percent.

The other major processing use of corn is for high fructose corn syrup (HFCS). Corn used for that product has grown from an estimated 45 million bushels in 1975-76 to 537 million bushels in 2000-01 (2 million less than used in 1999-00). Use is projected at 548 million bushels for the current year and 555 million for the 2002-03 marketing year. The HFCS market is fairly mature and will likely continue to see a slow rate of growth unless export opportunities are found. The other primary food markets for corn (glucose and dextrose, beverage alcohol, starch, and cereals) are also mature markets experiencing slow rates of growth.

Corn used for all domestic food and industrial uses during the 2002-03

marketing year is projected at 2.160 billion bushels, nearly 6 percent more than use during the current marketing year.

Domestic feed and residual use of corn has also increased significantly over time. Use in that category has grown from 3.2 billion bushels in 1975-76 to 5.85 billion in 2000-01. A slight decline in feed and residual use is expected for the current year, and growth is not expected during the 2002-03 marketing year. Slow growth in pork and poultry production is expected to be offset by declining beef production. There is also the likelihood of increased feed and residual use of other feed grains (primarily sorghum and oats) during the 2002-03 marketing year. Feed and residual use for the year ahead is projected at 5.74 billion bushels, 100 million less than expected to be used during the current year.

Exports Have Been Disappointing

The recent peak in annual U.S. corn exports was 2.228 billion bushels, during the 1995-96 marketing year. Exports have been at a significantly lower level since 1995-96. Including this year, exports have been very stable for the past four years, ranging from 1.925 to 1.981 billion bushels. U.S. exports have been limited by a number of factors, including: large Chinese exports, a strong U.S. dollar, and generally large feed grain crops in the rest of the world. The smaller world crop in 2000-01 reflected a small Chinese crop, but that small crop resulted in a smaller-than-expected reduction in Chinese exports. World corn trade, excluding internal trade in the European Union, totaled 3.0 billion bushels last year and is projected at only 2.8 billion bushels for the current year.

For the 2002-03 marketing year, the USDA currently expects U.S. exports to expand by 125 million bushels. That

expansion is expected to come primarily at the expense of Argentina due to a 24 percent smaller corn harvest. World trade is not expected to expand from the low level of the current year. A small reduction in Chinese corn exports is projected, even though the 2002 harvest is expected to be much larger than last year's crop. The expected reduction reflects the impact of China's entry into the World Trade Organization. Our expectation is that exports will not be quite as large as the current USDA projection.

Based on the projections made here, corn use during the year ahead will exceed the size of the 2002 crop resulting in a further reduction in inventories. Those inventories are projected at 1.16 billion bushels, the smallest year ending figure in 6 years.

Price Prospects


Cash corn prices in central Illinois traded to a harvest time low of \$1.795 on October 15, 2001. The average monthly price was in a relatively narrow range from November 2001 through May 2002 – \$1.885 to \$1.97. The average price during that 7-month period was almost identical to the average price during the same period in the previous year. Ideas that corn acreage would be less than indicated in March, along with hot, dry weather in late June pushed the average cash price to \$2.035 in June 2002. The daily price peaked at \$2.25 on July 1, but declined to \$2.07 on July 12.

Prices are expected to remain volatile into the fall harvest, driven by weather conditions and USDA production estimates. Prospects are more uncertain this year than has been the case for the past few seasons. The crop is still very vulnerable to an extended period of hot, dry weather, but could exceed our current

projection if weather is very favorable for the next 10 weeks.

Making pricing decisions during periods of crop uncertainty is difficult, at best. With both old and new crop prices above the CCC loan rate, this period of uncertainty should be used to finish old crop sales and to make a significant start on new sales. For both crops, producers might consider an averaging strategy over the next several weeks. For example, pricing an increment of current inventory and an increment of the expected crop on a weekly basis eliminates the frustration of trying to precisely time sales increments. Obviously, that strategy could be modified for the new crop if prices drop below the loan level or move sharply higher.

If the 2002 crop is 9.5 billion bushels or larger, little reduction in consumption will be required during the year ahead and prices will likely remain at modest levels. In general, the market believes that the new farm policy favors additional corn acreage in 2003. That will be a moderating factor for price if current supplies are adequate. Based on projections developed here, we project a 2002-03 marketing year average price of \$2.20 per bushel. If the remainder of the growing season is unfavorable, resulting in a sharp reduction in the size of the crop, prices would be expected to move sharply higher to ensure that the necessary plans to reduce consumption are put in place. Historically, short crops have resulted in prices over-reacting to the upside, resulting in the highest prices in the late summer/early fall time frame. That scenario would be expected with a short crop this year, unless demand is much stronger than currently anticipated.



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Table 1. Corn Quarterly Balance Sheet

	1981-82	1982-83	1983-84	1984-85	1985-86	1986-87	1987-88	1988-89	1989-90	1990-91	1991-92	1992-93	1993-94	1994-95	1995-96	1996-97	1997-98	1998-99	1999-00	2000-01	2001-02
	million bushels																				
September 1 stocks	1,392	2,537	3,523	1,006	1,648	4,040	4,882	4,259	1,930	1,344	1,521	1,100	2,113	850	1,558	426	883	1,308	1,787	1,718	1,899
Production	8,119	8,235	4,174	7,672	8,875	8,226	7,131	4,929	7,532	7,934	7,475	9,477	6,338	10,051	7,400	9,233	9,207	9,759	9,431	9,915	9,507
TOTAL*	9,511	10,772	7,699	8,680	10,534	12,267	12,016	9,191	9,464	9,282	9,016	10,584	8,472	10,910	8,974	9,672	10,099	11,085	11,232	11,639	11,416
September-November																					
Seed, food, ind.	173	208	227	244	276	295	296	302	312	338	361	370	383	410	417	388	435	450	459	466	489
Export	519	443	493	503	415	318	396	471	582	383	421	488	435	449	660	487	380	450	535	506	453
Feed, residual	1,218	1,215	1,326	1,301	1,219	1,348	1,551	1,344	1,487	1,619	1,673	1,814	1,701	1,963	1,778	1,885	2,030	2,118	2,188	2,131	2,202
TOTAL	1,910	1,866	2,046	2,048	1,910	1,961	2,243	2,117	2,381	2,339	2,455	2,672	2,519	2,822	2,856	2,759	2,845	3,018	3,182	3,104	3,144
December 1 stocks	7,601	8,906	5,852	6,631	8,615	10,305	9,771	7,072	7,082	6,940	6,547	7,906	5,937	8,080	6,106	6,903	7,247	8,052	8,039	8,530	8,265
Seed, food, ind.	166	192	212	236	262	281	288	301	313	330	362	365	379	410	405	400	425	434	447	465	481
Export	470	510	506	580	460	313	405	502	682	471	362	463	330	590	562	525	380	465	465	416	450
Feed, residual	1,199	1,305	1,069	1,192	1,306	1,463	1,444	1,065	1,276	1,351	1,267	1,401	1,240	1,492	1,344	1,486	1,503	1,460	1,529	1,609	1,540
TOTAL	1,835	2,007	1,787	2,008	2,028	2,057	2,137	1,868	2,271	2,152	1,991	2,229	1,949	2,493	2,311	2,411	2,308	2,359	2,441	2,488	2,471
March 1 stocks	5,766	6,899	3,865	4,623	6,587	8,248	7,636	5,204	4,812	4,789	4,561	5,678	3,996	5,592	3,800	4,494	4,940	5,698	5,602	6,043	5,795
Seed, food, ind.	201	228	253	294	307	333	337	353	376	384	414	414	423	452	433	471	470	495	512	514	545
Export	596	475	513	475	201	496	510	592	601	454	371	411	270	568	610	433	350	497	451	456	510
Feed, residual	1,089	1,272	954	1,019	1,091	1,088	951	841	993	960	1,042	1,146	950	1,159	1,044	1,097	1,084	1,097	1,058	1,152	1,150
TOTAL	1,886	1,975	1,720	1,788	1,599	1,917	1,798	1,786	1,970	1,798	1,828	1,971	1,642	2,180	2,087	2,001	1,904	2,089	2,022	2,122	2,205
June 1 stocks	3,880	4,924	2,145	2,836	4,990	6,332	5,839	3,419	2,843	2,992	2,739	3,709	2,360	3,415	1,718	2,497	3,040	3,616	3,586	3,924	3,594
Seed, food, ind.	193	227	238	293	307	324	331	341	369	374	396	407	429	442	373	460	475	467	496	511	
Export	412	393	374	292	151	365	406	463	503	419	430	301	293	570	396	353	394	569	485	557	
Feed, residual	739	781	527	603	499	761	843	685	627	679	816	891	789	846	527	809	865	795	890	956	
TOTAL	1,344	1,401	1,139	1,188	957	1,450	1,580	1,489	1,499	1,472	1,642	1,599	1,511	1,858	1,295	1,617	1,734	1,831	1,869	2,025	
September 1 stocks	2,537	3,523	1,006	1,648	4,040	4,882	4,259	1,930	1,344	1,521	1,100	2,113	850	1,558	426	883	1,308	1,787	1,718	1,899	
Annual																					
Seed, food, ind.	733	855	930	1,067	1,152	1,233	1,251	1,298	1,370	1,425	1,533	1,556	1,613	1,715	1,628	1,714	1,805	1,846	1,913	1,957	
Export	1,997	1,821	1,887	1,850	1,227	1,492	1,716	2,029	2,367	1,727	1,584	1,663	1,328	2,177	2,228	1,797	1,504	1,981	1,937	1,935	
Feed, residual	4,245	4,573	3,876	4,115	4,114	4,660	4,789	3,934	4,382	4,609	4,798	5,252	4,680	5,460	4,693	5,277	5,482	5,471	5,665	5,848	
TOTAL	6,975	7,249	6,693	7,032	6,494	7,385	7,757	7,260	8,120	7,761	7,916	8,471	7,622	9,352	8,548	8,789	8,791	9,298	9,524	9,740	

^a Includes imports for the entire year.

Table 2. Corn Annual Balance Sheet

	1989-90	1990-91	1991-92	1992-93	1993-94	1994-95	1995-96	1996-97	1997-98	1998-99	1999-00	2000-01	2001-02	2002-03 ^a
	million bushels													
Carryin	1,930	1,344	1,521	1,100	2,113	850	1,558	426	883	1,308	1,787	1,718	1,899	1,596
Production	7,532	7,934	7,475	9,477	6,338	10,051	7,400	9,233	9,207	9,759	9,431	9,915	9,507	9,464
TOTAL ^b	9,464	9,282	9,016	10,584	8,472	10,910	8,974	9,672	10,099	11,085	11,232	11,659	11,416	11,085
Seed, food, industrial	1,370	1,425	1,533	1,556	1,613	1,715	1,628	1,714	1,805	1,846	1,913	1,957	2,045	2,160
Export	2,367	1,727	1,584	1,663	1,328	2,177	2,228	1,797	1,504	1,981	1,937	1,935	1,925	2,025
Feed and residual	4,382	4,609	4,798	5,252	4,680	5,460	4,693	5,277	5,482	5,471	5,664	5,848	5,840	5,740
TOTAL	8,120	7,761	7,915	8,471	7,621	9,352	8,548	8,789	8,791	9,298	9,515	9,741	9,810	9,925
Carryout	1,344	1,521	1,100	2,113	850	1,558	426	883	1,308	1,787	1,718	1,899	1,596	1,160
U.S. average price	\$2.36	\$2.28	\$2.37	\$2.07	\$2.50	\$2.26	\$3.24	\$2.71	\$2.45	\$1.94	\$1.82	\$1.85	\$1.91	\$2.20

^a Projected^b Includes imports

Table 3. United States Corn Planting Intentions, Actual Plantings, and Acres Harvested

Year	Planted Acreage			Actual	Harvested Acreage
	February/January Intentions	March Intentions	June Intentions		
			thousand acres		
1976	80,822	82,727	84,092	84,588	71,506
1977	84,526	83,923	82,735	84,328	71,614
1978	80,944	80,237	78,717	81,675	71,930
1979	80,676	79,209	79,751	81,394	72,400
1980	83,131	82,022	83,478	84,043	72,961
1981	...	83,977	84,677	84,097	74,524
1982	...	84,735	82,129	81,857	72,719
1983	69,569 ^a	58,812	60,129	60,217	51,479
1984	...	81,766	79,940	80,617	71,897
1985	...	82,021	83,217	83,398	75,209
1986	...	78,066	76,646	76,580	68,907
1987	...	67,556	66,024	66,200	59,505
1988	...	66,926	67,519	67,717	58,250
1989	...	73,253	72,790	72,322	64,783
1990	...	74,804	74,574	74,166	66,952
1991	77,500	76,124	75,909	75,957	68,822
1992		79,007	79,335	79,311	72,077
1993		76,486	74,259	73,239	62,933
1994		78,625	78,767	78,921	72,514
1995		75,323	72,800	71,479	65,210
1996		79,920	80,355	79,229	72,644
1997		81,416	80,227	79,537	72,671
1998		80,781	80,798	80,165	72,589
1999		78,219	77,611	77,386	70,487
2000		77,881	79,579	79,551	72,740
2001		76,693	76,109	75,752	68,808
2002		79,047	78,947		(72,081)

^a February

Table 4. Planted Acreage of Corn by State

State	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002
	thousand acres												
Georgia	660	600	750	650	600	400	580	550	500	350	360	265	330
Illinois	10,600	11,200	11,200	10,590	11,600	10,200	11,000	11,200	10,600	10,800	11,200	11,000	11,600
Indiana	5,600	5,700	6,100	5,550	6,100	5,400	5,600	5,900	5,800	5,800	5,700	5,800	5,400
Iowa	12,800	12,500	13,200	12,000	13,000	11,700	12,700	12,200	12,500	12,100	12,300	11,700	12,200
Kansas	1,600	1,800	1,850	2,000	2,280	2,150	2,500	2,750	3,000	3,150	3,450	3,450	3,150
Kentucky	1,350	1,400	1,420	1,370	1,350	1,280	1,300	1,270	1,300	1,320	1,330	1,200	1,160
Michigan	2,400	2,600	2,700	2,500	2,550	2,450	2,650	2,500	2,300	2,200	2,200	2,200	2,350
Minnesota	6,700	6,600	7,200	6,300	7,000	6,700	7,500	7,000	7,300	7,100	7,200	6,800	7,400
Missouri	2,100	2,300	2,500	2,200	2,400	1,650	2,750	2,700	2,650	2,650	2,850	2,700	2,800
Nebraska	7,700	8,200	8,300	8,000	8,600	8,000	8,500	8,900	8,800	8,600	8,500	8,100	8,400
North Carolina	1,200	1,050	1,150	1,000	1,000	800	1,000	960	860	750	730	700	770
Ohio	3,700	3,700	3,800	3,500	3,700	3,300	2,900	3,800	3,550	3,450	3,550	3,400	3,200
Pennsylvania	1,380	1,400	1,380	1,370	1,400	1,380	1,450	1,550	1,550	1,500	1,550	1,500	1,400
South Dakota	3,400	3,750	3,800	3,350	3,800	2,800	4,000	3,800	3,900	3,600	4,300	3,800	4,100
Tennessee	620	620	740	660	670	640	770	700	700	630	650	630	690
Texas	1,650	1,700	1,750	2,000	2,150	2,100	2,100	2,000	2,400	1,950	2,100	1,600	2,000
Wisconsin	3,700	3,800	3,900	3,400	3,750	3,650	3,900	3,850	3,700	3,600	3,500	3,400	3,600
United States	74,171	75,951	79,325	73,323	79,158	71,245	79,487	79,537	80,165	77,386	79,551	75,752	78,947

Table 5. United States Corn Yield Estimates

	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001
July 1	93.0	90.5	89.4	90.1	95.8	99.3	95.9	...	...	...	...	...	...	...	87.0												
August 1	87.4	86.7	87.3	96.1	102.1	93.0	104.3	113.9	99.9	107.9	110.6	120.4	121.4	78.5	112.8	117.7	107.8	121.3	116.0	128.4	125.6	118.7	125.3	130.0	134.7	141.9	133.9
September 1	85.1	82.8	89.7	100.3	104.6	91.8	107.1	113.9	85.1	106.3	113.3	119.7	119.9	78.5	112.4	121.7	106.1	121.4	113.1	129.0	121.1	120.2	125.2	132.0	132.2	141.8	133.5
October 1	86.2	82.7	90.8	100.7	106.4	90.8	109.0	114.2	82.9	105.5	115.1	119.2	119.9	80.2	114.4	120.3	108.8	123.8	110.3	133.8	116.6	123.0	125.8	132.0	133.5	139.6	136.3
November 1	87.2	85.5	91.5	101.2	109.2	90.8	109.2	114.2	80.5	105.9	116.6	119.3	120.3	82.3	116.6	119.0	108.6	129.3	103.1	138.4	113.7	126.5	126.4	133.3	134.5	137.7	138.0
January 1	86.2	87.4	90.8	101.2	109.4	91.0	109.9	114.8	81.6	106.6	118.0	119.3	119.4	84.6	116.2	118.5	108.6	131.4	100.7	138.6	113.5	127.1	127.0	134.4	133.8	137.1	138.2
FINAL	86.4	88.0	90.8	101.0	109.5	91.0	108.9	113.2	81.1	106.7	118.0	119.3	119.8	84.6	116.3	118.5	108.6	131.5	100.7	138.6	113.5	127.1	126.7	134.4	133.8	136.9	

bushels per acre

Table 6. World Coarse Grain Production

	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002
	million metric tons																			
United States	137.1	237.7	274.9	252.8	215.9	149.7	221.4	230.7	218.6	277.4	186.5	284.9	210.0	265.7	260.4	271.5	263.2	273.1	261.9	270.7
Former USSR	99.0	90.5	100.0	105.9	113.7	97.5	104.8	99.4	80.4	95.3	95.6	79.2	57.4	52.0	67.9	38.0	40.5	49.5	62.1	54.6
Western Europe	86.2	103.6	101.4	94.0	93.3	99.5	102.2	97.6	104.3	93.8	96.1	86.6	88.5	103.8	109.4	105.6	102.6	107.2	105.7	108.1
China	92.7	96.2	82.3	87.0	95.8	94.2	93.5	111.7	112.3	108.4	117.8	114.3	124.5	141.3	114.7	144.2	137.2	114.0	122.4	133.4
Eastern Europe	67.1	72.8	65.5	73.9	63.9	61.3	60.2	51.4	64.7	43.2	44.5	46.9	51.4	50.0	59.0	51.0	54.7	36.0	51.7	49.3
Canada	21.0	22.0	23.9	25.5	25.5	19.7	23.5	24.8	21.8	19.6	24.0	23.4	24.1	28.2	25.1	26.6	26.8	24.3	22.9	27.7
India	34.1	31.4	25.8	26.6	23.5	31.3	34.6	32.6	25.9	36.8	31.0	30.1	29.8	34.3	30.9	31.7	30.5	31.6	30.9	32.0
Brazil	21.5	22.5	21.7	27.3	25.4	26.7	22.5	24.4	31.4	29.9	33.8	38.2	33.2	36.6	31.3	33.5	32.6	42.7	36.2	39.7
Argentina	17.4	18.9	17.4	13.0	13.1	7.3	8.3	10.8	14.5	14.1	13.3	13.9	14.1	18.9	24.7	17.8	21.5	19.6	18.5	14.8
South Africa	5.1	9.0	8.9	7.9	7.9	13.0	9.5	8.9	3.6	10.7	14.0	5.4	11.0	10.7	8.2	8.1	11.1	7.8	9.4	9.3
World	685.4	814.1	843.3	835.2	791.5	731.2	802.6	819.5	804.2	869.1	799.9	873.6	802.9	908.3	883.2	890.1	876.4	858.1	882.8	902.7
Excluding the U.S.	548.3	576.4	568.4	582.4	575.7	581.5	581.2	588.8	585.6	591.7	613.4	588.7	592.9	642.6	622.8	618.4	613.2	585.0	621.0	632.0

Source: USDA, FAS, World Crop Production, July 2002 and earlier issues.

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Grain Price OUTLOOK

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UNIVERSITY OF ILLINOIS
URBANA-CHAMPAIGN

SOYBEANS: CROP CONCERNS INCREASE

JULY 2002

Darrel Good

2002 – No. 6

Summary

The USDA's June *Grain Stocks* report revealed June 1, 2002 inventories of about 684 million bushels, 24 million less than on the same date last year and the smallest June 1 inventory in 4 years. While exports slowed in the third quarter of the marketing year, domestic crush remained record large. A continuation of the high rate of domestic crush, along with larger than expected exports in the last quarter of the year, will reduce year ending stocks to the lowest level in 4 years.

The USDA's June *Acreage* report revealed 2002 plantings and planting intentions of 72.993 million acres. That estimate is very close to intentions reported in March and 1.112 million acres less than planted in 2001. Acreage appears to be at the lowest level in 4 years. Summer weather conditions and mid-July crop ratings suggest that the 2002 average yield could fall below trend value, resulting in a further draw down in inventories and/or require a reduction in consumption of U.S. soybeans in the 2002-03 marketing year. Cash prices have moved to the highest level since November 1998. Unless weather and crop conditions improve significantly though August, the 2002-03 marketing

year average price will likely be the highest since 1997-98. Prices could remain above the new CCC loan rate, particularly early in the 2002-03 marketing year. South American and U.S. production prospects in 2003 will have significant impact on prices during the last half of the new marketing year.

Old Crop Use Remains Large

The domestic crush of soybeans during the first three quarters of the 2001-02 marketing year totaled a record 1.304 billion bushels, 59.7 million larger than crush during the same period last year (Table 1). The crush slowed in June as declining inventories and larger-than-expected export shipments reduced crush margins. It appeared that some crushing facilities were taking early down time for seasonal repairs due to the tightness in old crop supplies.

Soybean crush during the first three quarters of the marketing year has accounted for 75.7 to 77.9 percent of the marketing year total over the past 12 years. Declining margins and slowing export demand for meal suggests that the crush will continue to be slower for the remainder of the summer. The USDA projects marketing year crush at 1.705 billion bushels. Crush during the first

three quarters of the year represents 76.5 percent of that total. The projection seems very reasonable and is used in this analysis (Table 2).

The soybean marketing year runs from September through August 31, while the soybean meal marketing year runs from October 1 through September 30. The crush for the 2001-02 soybean meal marketing year is projected at 1.7 billion bushels as the September 2002 crush is expected to be smaller than the September 2001 crush. The average soybean meal yield per bushel of soybeans crushed during the first 10 months of the 2001-02 soybean marketing year was 47.65 pounds. It is not unusual for the average yield to be a little higher in the summer months. The average yield for the year may be near 47.7 pounds. A crush of 1.7 billion bushels would result in total meal production of 40.545 million tons (Table 3). It appears that soybean meal imports will be larger than normal this summer due to tight U.S. stocks and ample South American supplies. The USDA projects marketing year imports at 190,000 tons, compared to a typical range of 50,000 to 70,000 tons.

With only 2.5 months left in the marketing year, the USDA projects domestic meal consumption at 33.1 million tons, nearly 4.5 percent larger than consumption of last year. Domestic meal use has exceeded expectations due to a more rapid expansion of hog numbers. U.S. meal exports are expected to reach 7.75 million tons, only marginally larger than last year's shipments. Year end stocks will apparently be reduced to just under 270,000 tons (Table 3).

The average yield of soybean oil per bushel of soybeans crushed from September 2001 through May 2002 was

11.13 pounds. The average for the year will likely be near 11.14 pounds as the summer yield typically exceeds the winter time yield. A crush of 1.7 billion bushels of soybeans will result in total oil production of 18.938 billion pounds (Table 4). The USDA projects total soybean oil use at 19.1 billion pounds, suggesting that year end stocks will total 2.753 billion pounds, slightly smaller than stocks at the beginning of the year.

Soybean exports during the first three quarters of the 2001-02 marketing year were a record 921 million bushels, 46 million larger than exports during the same period last year. Based on the USDA's weekly export inspection report, shipments as of July 11 totaled 1 billion bushels, 58 million more than cumulative shipments of a year ago. With only 7 weeks left in the marketing year, shipments need to average only 6 million bushels per week to reach the USDA's projection of 1.045 billion bushels for the year. The rapid pace of exports reflects increased purchases by the European Union, Mexico, and Canada. Shipments to China are down from the level of a year ago, partially due to the interruptions stemming from implementation of GMO rules. U.S. shipments are being supported by delayed shipments from South America. Supplies there, however, remain large.

As of July, the U.S. had reported export sales of 81 million bushels which had not yet been shipped. Outstanding sales on the same date last year were at 77 million bushels. Weekly shipments for the four weeks ended July 11 averaged 11.5 million bushels. It appears that shipments for the year could reach 1.05 billion bushels. If so, year ending stocks will be reduced to about 206 million bushels, the lowest level in four years (Table 2).

2002 Production Prospects

The USDA's June Acreage report showed 2002 soybean plantings and planting intentions of 72.993 million acres, very near intentions reported in March (Table 5). The June estimate of acreage is 1.112 million acres below plantings of 2001 and represents the smallest acreage in 4 years. The market had anticipated a larger June estimate, expecting that the late planting in the eastern corn belt would result in switching of acres from corn to soybeans.

Compared to March intentions, the June Acreage report indicated decreases of 450,000 acres in the western corn belt, 50,000 acres in the southeast, and 73,000 acres in eastern states. Acreage increased by 50,000 acres in the eastern corn belt and 550,000 in the delta and other southern states.

Compared to plantings in 2001, intentions for 2002 are higher (475,000 acres) only in delta and other southern states (Table 6). That increase is primarily in Mississippi and Louisiana. Acreage is down in the western corn belt (950,000), eastern corn belt (550,000), southeast (5,000), and in eastern states (82,000). The decline in soybean acreage in the western corn belt would be the first year-over-year decline since 1993. Those states still account for 50.4 percent of the U.S. total.

The final estimate of planted acreage of soybeans often differs from the June estimate (Table 5). The final estimate was below the June estimate in each of the past 5 years, 8 of the past 9 years, and 11 of the past 13 years. The difference has ranged from 150,000 acres to 1.311 million acres. The market probably expects that the final acreage estimate this year will exceed the June estimate since corn and soybean planting

were not completed at the time of the June survey. History, however, does not support that expectation. A small decline, to 72.9 million, is likely.

The difference between planted and harvested acreage of soybeans over the past 10 years has ranged from 811,000 (1994) to 2.778 million (1993). The "typical" difference has been about a million acres. In the June report this year, the USDA projected a difference of 964,000 acres. Given the large areas of unfavorable weather so far this year, the difference could exceed that projection. We are using a harvested acreage projection of 71.9 million.

The U.S. average soybean yield has been relatively stable over the past 6 years, ranging from 36.6 bushels to 29.6 bushels (Table 7). The relatively stability of yields at a high level is very unusual. In its July report, the USDA's World Agricultural Outlook Board used a projection of 39.7 bushels for the 2002 average yield. The lateness of the crop along with large areas of stressful weather bring that projection into question. As of July 14, only 50 percent of the crop in the 18 major soybean producing states was rated in good or excellent condition. On the same date last year, 57 percent was rated either good or excellent. The poorest crop ratings were in Missouri and Nebraska and the best ratings were for Wisconsin, Tennessee, Minnesota, Iowa and Kentucky. The same report indicated that crop maturity (as measured by the percent of the crop setting pods) was behind the average pace in the eastern corn belt.

Weather conditions over the next 10 weeks will be extremely important in determining yield potential. Our inclination is to expect an average near the lower end of recent experience. A

projection of 38.5 bushels per acre is used for the time being, but with very little confidence. The USDA will release its first forecast of 2002 yields and production on August 12. The acreage and yield projections developed here, point to a 2002 crop of 2.768 billion bushels, about 90 million below the USDA's July "working number".

Large Domestic Use, Declining Exports

A continuation of a slow rate of growth in domestic soybean meal and oil consumption is expected for the 2002-03 marketing year. The USDA projects a 3 percent increase in domestic oil consumption, which is less than the rate of growth this year, but above the "typical" rate of about 2.5 percent. Domestic meal consumption is projected to increase by only 1.2 percent, following an increase of 4.5 percent this year. The modest increase in hog numbers and declining cattle numbers account for the slow-growth prospects.

Both meal and oil exports are expected to decline modestly during the year ahead. World soybean oil and total vegetable oil trade is expected to expand, but the U.S. is expected to lose soybean oil market share to South America. The same scenario is forecast for soybean meal. Foreign oilseed production is projected to increase by about 3 percent during the year ahead (Table 8). Most of that growth is expected to come from increased soybean production. World palm oil production is expected to grow another 3.5 percent during the year ahead, providing stiff competition for U.S. and world soybean oil.

In its July report, the USDA projected that the domestic soybean crush would grow by only 10 million bushels (0.6 percent) during the 2002-03 marketing year.

Depending on the size of the crop and the magnitude of exports during the 2002-03 marketing year, the domestic crush may be limited to even a smaller rate of growth, or even some decline. We currently project the crush at only 1.7 billion bushels, due to expectations of a smaller crop and higher prices.

U.S. soybean exports are expected to decline during the upcoming marketing year due to limited domestic supplies, increased competition from South American supplies, and higher soybean prices. The USDA projects an increase of nearly 170 million bushels in the size of the South American soybean harvest in 2003 (Table 9). That increase reflects expectations of expanded acreage in Brazil and Argentina and slightly higher yields in Brazil (Table 10). In addition to the larger crop next year, the slower pace of Argentine exports from the 2002 crop suggest that old crop supplies will be available to the market longer than usual. Based on our expectations about U.S. crop size, U.S. exports in 2002-03 may be limited to about 940 million bushels (Table 2). Even then, year ending stocks in the U.S. would be reduced to minimum levels.

Price Prospects

Soybean and soybean product prices have moved sharply higher since early May as the market became aware of tightening old crop supplies and became concerned about prospects for the 2002 U.S. crop. The average daily cash price of soybeans in central Illinois moved from about \$4.50 in early May to a high of \$5.745 on July 16. The average price of soybean meal (48 percent, Decatur Illinois) moved from \$161.00 per ton to \$193.50 and the average price of soybean oil (bulk, Decatur, Illinois) increased from \$.148 per pound to \$.198 per pound during the same time period.

Soybean prices moved to the highest level since November 1998.

November 2002 soybean futures increased from \$4.74 on May 1 to a high of \$5.47 on July 16. That contract settled at \$5.34 on July 18. Harvest time, cash bids moved near the CCC loan rate in many areas. The futures market was offering a 2002-03 marketing year average price of about \$5.15 per bushel.

Prices over the next several weeks will reflect prospects for the size of the 2002 U.S. crop. Typically, prices during years of significant crop concerns tend to peak early, during the late summer or early fall months. That type of pattern seems to be shaping up this year – high prices early in the 2002-03 marketing year, followed by some decline in the winter months. Prospects for the 2003 U.S. and South American crops will have significant price implications during the last half of the 2002-03 marketing year. For now, we are projecting a marketing year average price near \$5.00 per bushel, but that projection will change if the size of the 2002 U.S. crop is significantly different than projected here.

As long as the new crop price is above the CCC loan level, producers should probably be pricing some of that crop. Timing of sales during periods of crop concern is difficult. An averaging strategy over the next several weeks might be considered for some portion of the expected crop. The lack of carry in the price structure favors harvest time sales.

A handwritten signature in cursive script that reads "Darrel Good".

Issued by Darrel Good
Extension Economist
University of Illinois

Table 1. Soybean Quarterly Balance Sheet

	1982-83	1983-84	1984-85	1985-86	1986-87	1987-88	1988-89	1989-90	1990-91	1991-92	1992-93	1993-94	1994-95	1995-96	1996-97	1997-98	1998-99	1999-00	2000-01	2001-02
	million bushels																			
September 1 stocks	254.5	344.6	175.7	316.1	536.4	436.4	302.5	182.0	239.1	329.0	278.4	292.3	209.1	334.8	183.5	131.8	199.8	348.5	290.2	247.7
Production	2,190.3	1,635.8	1,860.9	2,099.1	1,942.6	1,937.7	1,548.8	1,923.8	1,925.9	1,986.6	2,190.4	1,869.7	2,514.9	2,174.3	2,380.3	2,688.8	2,741.0	2,653.8	2,757.8	2,890.6
TOTAL	2,444.8	1,980.4	2,036.6	2,415.2	2,479.0	2,374.1	1,856.3	2,108.8	2,167.0	2,319.6	2,470.8	2,167.0	2,730.0	2,514.1	2,572.8	2,825.6	2,943.8	3,006.3	3,052.0	3,143.3
September-November																				
Crush	284.2	269.6	253.7	267.5	295.8	293.4	275.4	273.0	304.1	322.0	328.2	329.6	346.2	351.4	360.6	395.8	409.3	426.7	420.9	427.7
Export	245.9	190.6	153.4	166.5	216.5	260.8	138.3	168.5	120.1	167.1	235.9	176.0	230.9	233.6	289.7	365.3	268.5	297.8	315.5	348.3
Seed, residual	-36.2	48.5	14.8	21.5	10.1	64.6	74.8	56.6	58.8	51.5	70.7	79.8	50.9	95.7	97.4	66.9	78.5	98.9	75.6	91.7
TOTAL	493.9	508.7	421.9	455.4	522.4	618.8	488.5	498.1	483.0	540.6	634.8	585.4	628.0	681.7	747.7	826.2	758.8	823.4	812.0	867.7
December 1 stocks	1,950.9	1,471.7	1,614.7	1,959.8	1,956.6	1,755.3	1,366.8	1,610.7	1,684.0	1,779.0	1,836.0	1,573.6	2,102.0	1,833.4	1,825.1	1,999.4	2,186.0	2,182.9	2,240.0	2,275.6
Crush	314.9	262.5	276.4	281.9	320.1	317.3	286.3	304.3	301.4	323.1	335.2	327.2	371.8	359.0	400.7	443.1	408.6	408.1	417.9	446.6
Export	263.6	234.6	230.2	270.9	233.7	258.9	197.0	217.0	179.7	259.6	255.9	212.7	283.5	278.7	333.1	306.4	243.1	315.4	338.4	422.8
Seed, residual	26.6	18.8	47.0	35.7	63.8	33.0	-6.7	33.9	12.8	19.6	29.3	12.1	76.5	5.3	35.5	46.9	77.0	63.2	79.8	70.2
TOTAL	605.1	515.9	553.6	588.5	617.6	609.2	476.6	555.2	493.9	602.3	620.4	552.0	731.8	643.0	769.3	796.5	728.7	786.7	836.1	939.6
March 1 stocks	1,345.8	955.8	1,061.1	1,371.3	1,339.0	1,146.1	890.2	1,055.5	1,190.1	1,177.3	1,215.6	1,021.6	1,370.2	1,190.4	1,055.8	1,202.9	1,457.3	1,396.0	1,403.9	1,336.00
Crush	260.1	240.0	258.2	262.3	297.2	308.3	270.1	290.7	295.5	304.0	325.4	320.4	361.7	334.0	355.7	404.9	396.4	373.9	405.4	429.6
Export	216.2	204.2	153.4	226.4	159.3	185.0	135.5	153.2	146.9	148.2	186.7	120.6	216.6	188.5	165.9	120.0	161.9	205.8	220.8	150.0
Seed, residual	78.9	39.9	41.1	33.7	45.7	-2.5	20.1	15.7	24.2	29.4	20.1	25.3	0.0	44.9	34.3	84.4	50.4	58.9	69.5	72.6
TOTAL	555.2	484.1	452.7	522.4	502.2	490.8	425.7	459.6	466.6	481.6	532.2	466.3	578.3	567.4	555.9	609.2	608.7	621.8	695.7	652.2
June 1 stocks	790.6	471.7	608.4	848.9	836.8	655.3	464.5	595.9	723.5	695.7	683.4	555.3	791.9	622.8	499.9	593.7	848.6	774.4	708.2	683.8
Crush	248.8	210.6	242.1	241.1	265.5	255.5	225.8	278.4	285.9	304.6	290.0	298.4	325.5	324.9	318.7	353.2	375.4	370.1	397.0	
Export	179.5	113.6	61.1	76.3	147.4	97.6	56.2	84.2	110.4	109.0	91.0	79.7	107.0	150.5	93.0	78.7	127.5	171.6	123.7	
Seed, residual	17.7	-28.2	-10.9	-4.9	-12.5	0.3	0.5	-5.8	-1.8	3.1	10.1	-31.9	24.6	-35.2	-43.6	-37.9	-1.3	-55.0	-60.2	
TOTAL	446.0	296.0	292.3	312.5	400.4	352.8	282.5	356.8	394.5	416.7	391.1	346.2	457.1	439.6	368.1	393.9	501.6	486.7	460.5	
September 1 stocks	344.6	175.7	316.1	536.4	436.4	302.5	182.0	239.1	329.0	278.4	292.3	209.1	334.8	183.5	131.8	199.8	348.5	290.2	247.7	
Annual																				
Crush	1,108.0	982.7	1,030.4	1,052.8	1,178.7	1,174.5	1,057.6	1,146.4	1,186.9	1,253.7	1,278.8	1,275.6	1,405.2	1,369.4	1,435.7	1,595.1	1,589.7	1,578.8	1,641.2	
Export	905.2	743.0	598.1	740.1	756.9	801.7	527.0	622.9	557.1	683.9	769.5	599.0	838.0	851.2	881.7	870.4	801.0	973.8	998.4	
Seed, residual	87.0	79.0	92.0	85.9	107.0	95.4	88.7	100.4	94.0	103.6	130.2	85.3	152.0	110.4	123.6	160.3	204.6	166.2	164.5	
TOTAL	2,100.2	1,804.7	1,720.5	1,878.8	2,042.6	2,071.6	1,673.3	1,869.7	1,838.0	2,041.2	2,178.5	1,949.9	2,397.0	2,330.9	2,441.0	2,625.8	2,595.3	2,718.80	2,803.10	

Table 2. Soybean Balance Sheet -- Years Beginning September 1

	1989-90	1990-91	1991-92	1992-93	1993-94	1994-95	1995-96	1996-97	1997-98	1998-99	1999-00	2000-01	2001-02	2002-03 ^a
	million bushels													
Carryin	182	239	329	278	292	209	335	183	132	200	348	290	248	20-6
Production	1,924	1,926	1,987	2,190	1,870	2,515	2,174	2,380	2,689	2,741	2,654	2,758	2,891	2,768
TOTAL ^b	2,109	2,167	2,320	2,470	2,168	2,729	2,514	2,573	2,826	2,944	3,006	3,052	3,141	2,979
Crush	1,146	1,187	1,254	1,279	1,276	1,405	1,369	1,436	1,597	1,590	1,578	1,641	1,705	1,700
Export	623	557	684	770	589	838	851	882	870	805	975	1,000	1,050	940
Seed, feed, residual	101	94	103	129	94	151	111	123	159	201	163	163	180	165
TOTAL	1,870	1,838	2,041	2,178	1,954	2,394	2,331	2,441	2,626	2,596	2,716	2,804	2,935	2,805
Carryout	239	329	278	292	209	335	183	132	200	348	290	248	206	174
U.S. Average price	\$5.70	\$5.75	\$5.58	\$5.60	\$6.40	\$5.48	\$6.77	\$7.35	\$6.47	\$4.93	\$4.63	\$4.54	\$4.35	\$5.00

^a Projected

^b Includes Imports

Table 3. Soybean Meal Balance Sheet -- Years Beginning October 1

	1989-90	1990-91	1991-92	1992-93	1993-94	1994-95	1995-96	1996-97	1997-98	1998-99	1999-00	2000-01	2001-02
	thousand tons												
Beginning stocks	173	318	285	230	204	150	223	212	210	218	330	293	383
Production	27,719	28,325	29,831	30,364	30,514	33,270	32,527	34,210	38,176	37,792	37,591	39,389	40,545
TOTAL ^a	27,982	28,688	30,183	30,687	30,788	33,483	32,825	34,524	38,443	38,109	37,970	39,733	41,118
Domestic	22,291	22,934	23,007	24,251	25,283	26,542	26,611	27,320	28,895	30,657	30,345	31,687	33,100
Exports	5,319	5,469	6,946	6,232	5,356	6,717	6,002	6,994	9,330	7,122	7,332	7,662	7,750
TOTAL	27,610	28,403	29,953	30,483	30,639	33,260	32,613	34,314	38,225	37,779	37,678	39,349	40,850
Ending stocks	318	285	230	204	150	223	212	210	218	330	293	383	268
Price ^b	\$186.48	\$181.38	\$189.21	\$193.75	\$192.86	\$162.55	\$235.92	\$270.90	\$185.28	\$138.55	\$167.70	\$173.60	\$165.00

^a Includes imports^b Bulk, Decatur, Illinois 48%

Table 4. Soybean Oil Balance Sheet -- Years Beginning October 1

	1989-90	1990-91	1991-92	1992-93	1993-94	1994-95	1995-96	1996-97	1997-98	1998-99	1999-00	2000-01	2001-02 ^c
	million pounds												
Beginning stocks	1,715	1,305	1,786	2,239	1,555	1,103	1,137	2,015	1,520	1,382	1,520	1,995	2,877
Production	<u>13,003</u>	<u>13,406</u>	<u>14,346</u>	<u>13,778</u>	<u>13,951</u>	<u>15,613</u>	<u>15,240</u>	<u>15,752</u>	<u>18,143</u>	<u>18,081</u>	<u>17,825</u>	<u>18,434</u>	<u>18,938</u>
TOTAL ^a	14,740	14,728	16,132	16,027	15,574	16,733	16,472	17,821	19,723	19,546	19,427	20,502	21,853
Domestic	12,082	12,163	12,246	13,053	12,941	12,916	13,465	14,263	15,262	15,655	16,056	16,219	16,800
Exports	<u>1,353</u>	<u>779</u>	<u>1,647</u>	<u>1,419</u>	<u>1,529</u>	<u>2,680</u>	<u>992</u>	<u>2,037</u>	<u>3,079</u>	<u>2,372</u>	<u>1,376</u>	<u>1,406</u>	<u>2,300</u>
TOTAL	13,435	12,942	13,893	14,472	14,471	15,596	14,457	16,300	18,341	18,027	17,432	17,625	19,100
Ending stocks ^b	1,305	1,786	2,239	1,555	1,103	1,137	2,015	1,520	1,382	1,520	1,995	2,877	2,753
Average Price ^b	22.3¢	21.0¢	19.1¢	21.4¢	27.1¢	27.6¢	24.75¢	22.5¢	25.8¢	19.9¢	15.6¢	14.2¢	15.5¢

^a Includes imports^b Bulk, Decatur, Illinois 44%^c Projected

Table 5. Soybean Planting Intentions, Actual Plantings, and Acres Harvested

Year	January Intentions	Mar./April Intentions	June/July Intentions	Actual	Harvested Acreage
million acres					
1975	57.5	56.6	54.6	54.6	53.8
1976	50.9	49.3	49.0	50.3	49.4
1977	53.1	55.7	59.0	59.0	57.6
1978	63.9	63.7	64.0	64.7	63.3
1979	66.3	68.8	71.6	71.4	70.3
1980	71.6	71.3	70.3	69.9	67.8
1981	---	69.8	68.5	67.5	66.2
1982	69.5 ^a	---	72.2	70.9	69.4
1983	68.8 ^a	65.8 ^b	63.3	63.8	62.5
1984	65.2 ^a	---	68.0	67.8	66.1
1985	64.4 ^a	---	63.3	63.1	61.6
1986	---	62.0	61.8	60.4	58.3
1987	---	56.9	58.7	58.180	57.172
1988	---	58.0	58.5	58.840	57.373
1989	---	61.7	61.3	60.820	59.282
1990		59.42	58.05	57.795	56.283
1991	58.5	57.12	59.78	59.180	58.169
1992		57.42	59.03	59.180	58.233
1993		59.30	61.58	60.085	57.307
1994		61.12	61.78	61.620	60.809
1995		61.45	63.105	62.495	61.544
1996		62.478	63.895	64.195	63.349
1997		68.800	70.850	70.005	69.110
1998		72.000	72.720	72.025	70.441
1999		73.105	74.205	73.730	72.446
2000		74.871	74.501	74.266	72.408
2001		76.657	75.416	74.105	73.000
2002		72.966	72.993		72.029

^a February 1^b May 1

Table 6. Planted Acres of Soybeans by Region

Region	Western Corn Belt ^a		Eastern Corn Belt ^b		Mid-South ^c		Southeast ^d		East Coast ^e		United States	
	000 acres	%	000 acres	%	000 acres	%	000 acres	%	000 acres	%	000 acres	%
1976	16,145	32.1	14,530	28.9	13,630	27.1	4,799	9.6	1,122	2.3	50,226	100.0
1979	23,370	32.7	19,620	27.5	18,470	25.9	8,360	11.7	1,591	2.2	71,411	100.0
1986	24,875	41.2	18,300	30.3	10,995	18.2	4,680	7.8	1,535	2.5	60,385	100.0
1987	24,120	41.5	18,580	31.9	10,330	17.8	3,675	6.3	1,475	2.5	58,180	100.0
1988	24,310	41.3	18,680	31.7	10,460	17.8	3,810	6.5	1,580	2.7	58,840	100.0
1989	24,790	40.8	19,020	31.3	10,750	17.7	4,460	7.3	1,800	2.9	60,820	100.0
1990	23,750	41.1	18,490	32.0	10,270	17.2	3,650	6.3	1,635	2.8	57,795	100.0
1991	26,035	44.0	19,420	32.8	8,990	15.2	3,005	5.1	1,730	2.9	59,180	100.0
1992	25,400	42.9	20,000	33.8	8,980	15.2	2,915	5.2	1,715	2.9	59,180	100.0
1993	25,300	42.1	20,410	34.0	9,690	16.1	2,915	4.9	1,770	2.9	60,085	100.0
1994	27,220	44.1	20,510	33.3	9,220	15.0	2,875	4.7	1,795	2.9	61,620	100.0
1995	28,210	45.1	21,130	33.8	9,130	14.7	2,290	3.6	1,735	2.8	62,495	100.0
1996	28,250	44.0	22,370	34.8	9,390	14.6	2,565	4.0	1,620	2.5	64,195	100.0
1997	32,450	46.4	22,610	32.3	10,390	14.8	2,777	4.0	1,778	2.5	70,005	100.0
1998	33,700	46.8	23,650	32.8	10,180	14.1	2,690	3.8	1,805	2.5	72,025	100.0
1999	35,800	48.5	24,100	32.7	9,700	13.2	2,360	3.2	1,770	2.4	73,730	100.0
2000	37,050	49.9	24,050	32.4	9,070	12.2	2,230	3.0	1,926	2.6	74,266	100.0
2001	37,700	50.9	24,650	33.3	7,695	10.4	2,145	2.9	1,915	2.5	74,105	100.0
2002	36,750	50.4	24,100	33.0	8,170	11.2	2,140	2.9	1,833	2.5	72,993	100.0

^a Iowa, Kansas, Minnesota, Missouri, Nebraska, North Dakota, South Dakota

^b Illinois, Indiana, Michigan, Ohio, Wisconsin

^c Arkansas, Kentucky, Louisiana, Mississippi, Oklahoma, Tennessee, Texas

^d Alabama, Florida, Georgia, North Carolina, South Carolina

^e Delaware, Maryland, New Jersey, New York, Pennsylvania, Virginia, West Virginia

Table 7 United States Soybean Yield Estimates

	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001
										million bushels													
August 1	30.3	27.4	30.2	32.3	29.7	30.5	31.5	32.9	34.7	26.0	32.3	32.5	31.8	35.8	33.8	37.6	36.4	36.3	39.5	39.5	39.2	40.7	38.7
September 1	30.9	27.0	31.2	32.6	24.9	30.3	33.2	33.1	34.0	25.9	32.0	32.4	31.0	35.9	34.0	38.2	37.0	35.8	39.3	40.6	37.9	39.5	38.2
October 1	31.5	26.0	31.5	32.4	24.7	29.5	33.9	33.3	34.2	26.4	32.6	32.3	33.0	36.3	33.7	40.5	35.5	37.0	39.0	38.7	37.0	38.7	39.2
November 1	31.8	26.5	31.0	32.4	25.0	28.5	34.2	33.8	34.1	26.6	32.8	33.7	33.5	37.3	32.7	41.5	35.4	37.9	39.2	38.6	36.7	38.0	39.4
January 1	32.2	26.8	30.4	32.2	25.7	26.2	34.1	33.8	33.7	26.8	32.4	34.0	34.3	37.6	32.0	41.9	34.9	37.6	39.0	38.9	36.5	38.1	39.6
FINAL	32.1	26.5	30.1	31.5	26.2	28.1	34.1	33.3	33.9	27.0	32.3	34.1	34.2	37.6	32.6	41.4	35.3	37.6	38.9	38.9	36.6	38.1	

Table 8. World Oilseed and Soybean Production

Year	Major Oilseeds			Soybeans		
	United States	Ex-United States	Total	United States	Ex-United States	Total
	million metric tons					
1977-78	56.5	93.7	150.20	47.95	23.98	71.93
1978-79	58.6	92.0	150.60	50.86	26.62	77.48
1979-80	72.4	98.1	170.50	61.72	31.79	93.51
1980-81	55.8	99.8	155.60	48.77	32.20	80.97
1981-82	64.0	105.5	169.50	54.13	31.93	86.06
1982-83	68.2	110.1	178.30	59.61	33.96	93.57
1983-84	50.4	115.1	165.50	44.52	38.64	84.16
1984-85	59.2	131.7	191.10	50.64	42.50	93.14
1985-86	65.4	130.8	196.20	57.13	39.92	97.05
1986-87	59.4	135.0	194.40	52.87	45.21	98.08
1987-88	60.6	150.0	210.60	52.75	51.06	103.81
1988-89	50.3	153.9	204.20	42.15	53.49	95.64
1989-90	59.3	153.1	212.40	52.35	55.02	107.37
1990-91	60.6	155.1	215.70	52.42	51.57	103.99
1991-92	64.3	160.0	224.30	54.07	53.31	107.38
1992-93	68.4	158.9	227.40	59.61	57.69	117.30
1993-94	59.5	168.4	227.90	50.92	66.58	117.50
1994-95	79.7	181.2	260.90	68.49	69.14	137.63
1995-96	69.1	190.6	259.70	59.24	65.72	124.96
1996-97	74.8	187.0	261.80	64.78	67.40	132.18
1997-98	83.1	203.9	287.00	73.18	84.90	158.07
1998-99	84.4	210.3	294.70	74.60	85.21	159.81
1999-00	82.3	221.1	303.40	72.22	87.68	159.90
2000-01	84.9	228.5	313.40	75.06	100.06	175.17
2001-02	89.9	233.5	323.30	78.67	105.09	183.76
2002-03	87.8	240.6	328.46	77.84	111.58	189.41

¹WASDE July 11, 2002 and earlier.

Table 9. Soybean Production by Country

Year	United States	Brazil ^a	Argentina ^a	Paraguay ^a	China	Other	World	All Foreign
million bushels								
1970	1,127	76	2	3	254	165	1,627	500
1971	1,176	135	3	4	290	126	1,734	558
1972	1,283	184	10	4	320	66	1,867	584
1973	1,547	289	18	7	367	64	2,292	745
1974	1,215	363	18	8	349	54	2,007	792
1975	1,547	413	26	10	367	46	2,409	862
1976	1,288	460	51	14	242	128	2,183	895
1977	1,762	350	99	12	266	154	2,643	881
1978	1,870	557	136	20	278	167	2,847	977
1979	2,261	376	132	21	274	191	3,255	994
1980	1,798	558	129	22	292	176	2,975	1,177
1981	1,989	471	152	22	342	186	3,162	1,173
1982	2,190	542	154	19	332	200	3,437	1,247
1983	1,636	571	257	20	359	213	3,056	1,420
1984	1,861	672	248	35	356	248	3,421	1,561
1985	2,099	518	268	22	386	272	3,565	1,466
1986	1,943	636	257	35	427	303	3,601	1,658
1987	1,938	662	356	40	457	359	3,812	1,874
1988	1,549	852	235	60	428	387	3,506	1,957
1989	1,924	747	395	58	376	445	3,945	2,020
1990	1,926	579	423	48	404	446	3,826	1,900
1991	1,987	709	410	48	357	435	3,946	1,959
1992	2,188	827	417	64	378	434	4,308	2,120
1993	1,871	908	456	66	563	454	4,318	2,447
1994	2,517	952	459	81	588	460	5,057	2,540
1995	2,177	887	457	88	496	487	4,591	2,415
1996	2,380	1,003	412	102	486	474	4,857	2,477
1997	2,689	1,194	717	110	551	545	5,806	3,117
1998	2,741	1,150	735	112	557	577	5,872	3,131
1999	2,654	1,257	779	107	525	527	5,875	3,221
2000	2,758	1,433	1,021	129	566	528	6,435	3,677
2001	2,891	1,598	1,084	114	566	499	6,752	3,861
2002	2,860	1,727	1,102	136	573	562	6,960	4,100

^a Harvested in the spring of the following year.

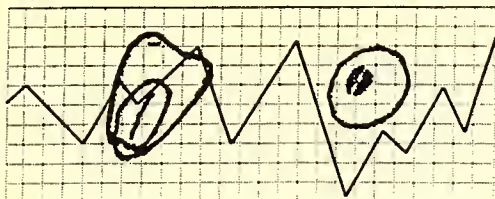
Table 10. South American Soybean Area, Yield and, Production, 1988 to Date

Year	Brazil			Argentina			Paraguay		
	Area mil. ha.	Yield t/ha.	Production mil.t	Area mil. ha.	Yield t/ha.	Production mil. t.	Area mil. ha.	Yield t/ha.	Production mil. t.
1988-89	12.15	1.94	23.60	4.00	1.63	6.50	0.85	1.90	1.62
1989-90	11.55	1.76	20.34	4.95	2.17	10.75	0.98	1.61	1.58
1990-91	9.75	1.62	15.75	4.75	2.42	11.50	0.89	1.46	1.30
1991-92	9.70	1.99	19.30	4.80	2.32	11.15	0.90	1.44	1.30
1992-93	10.63	2.12	22.50	4.90	2.32	11.35	0.98	1.79	1.75
1993-94	11.44	2.16	24.70	5.40	2.30	12.40	1.05	1.71	1.80
1994-95	11.68	2.22	25.90	5.70	2.19	12.50	1.10	2.00	2.20
1995-96	10.95	2.21	24.15	5.98	2.08	12.43	1.10	2.18	2.40
1996-97	11.80	2.27	26.80	6.26	1.81	11.20	1.20	2.31	2.77
1997-98	13.00	2.50	32.50	6.95	2.80	19.50	1.20	2.49	2.99
1998-99	12.90	2.43	31.30	8.17	2.45	20.00	1.20	2.54	3.05
1999-00	13.60	2.51	34.20	8.58	2.47	21.20	1.15	2.52	2.90
2000-01	13.93	2.80	39.00	10.40	2.67	27.80	1.35	2.61	3.52
2001-02	16.35	2.66	43.50	11.30	2.61	29.50	1.42	2.18	3.10
2002-03	17.00	2.76	47.00	12.00	2.50	30.00	1.45	2.55	3.70

Source: USDA, FAS

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Summary

The USDA's October *Crop Production* report projected the 2002 U.S. corn crop at 8.97 billion bushels, 537 million bushels smaller than the 2001 crop, but 121 million larger than the September forecast. Assuming that year end inventories cannot be reduced below 500 million bushels, the projected crop along with beginning stocks of 1.599 billion bushels (and imports of 15 million bushels) means that there is about 10.084 billion bushels of U.S. corn available for use during the 2002-03 marketing year. The USDA projects use at 9.82 billion, about equal to the record consumption during the 2001-02 marketing year. The smaller course grain crop in the rest of the world (down 1.1 percent from the crop of a year ago) and the 19 percent decline in U.S. production of other feed grains, suggest that corn consumption could exceed the USDA projection. However, use could exceed that projection by 260 million bushels (2.6 percent) before supplies become a limiting factor. The market will now monitor the rate of consumption closely for clues that use might be different than currently projected.

For the 2002-03 marketing year, the USDA projects the average farm price in a range of \$2.30 to \$2.70 per bushel, compared to the average of \$1.97 for the 2001-02 marketing year. Our point projection of the average price is near \$2.45. Prospects for the 2003 crop may well determine whether prices are near

the low end or the upper end of the projected price range.

U.S. Corn Supplies Down 7 Percent

The USDA's September *Grain Stocks* report estimated the September 1, 2002 inventory of U.S. corn at 1.599 billion bushels (Table 1). That estimate is 37 million bushels less than was projected a month ago, implying that domestic feed and residual use of corn during this past year exceeded the USDA forecast. Feed and residual use for the year totaled 5.862 billion bushels, 20 million above the previous record during the 2001-02 marketing year.

With a crop of 8.97 billion bushels, imports of 15 million, and beginning stocks of 1.599 billion bushels, the total supply of corn for the current marketing year is 10.584 billion bushels, down 832 million bushels (7.3 percent) from supplies of a year ago. The 2002 sorghum crop is projected at 387.2 million bushels, down 24.7 percent from the size of last year's crop; production of oats, at 119 million bushels, is about the same as that of a year ago; the barley crop, at 227 million bushels, is down 8.8 percent; and wheat production, at 1.625 billion bushels, is down 17 percent. Total feed grain supplies (production, stocks, and imports) are 7.8 percent smaller than the supplies of a year ago.

The October corn crop forecast reflects an average U.S. yield of 127.2 bushels per acre

(Table 2). That projection is 1.8 bushels above the September projection and 2 bushels above the August projection, but 11 bushels below the 2001 average yield. Among the major corn producing states, yields are down from those of a year ago in Indiana (39 bushels), Missouri (31 bushels), Nebraska (27 bushels), and Ohio (34 bushels). In addition, yields are sharply lower in eastern states. Average yields are projected to be higher than last year's average in Iowa (13 bushels) and Minnesota (22 bushels). Average yield projections for those two states were increased by 10 bushels and 7 bushels, respectively, in the *October Crop Production* report.

The pattern of the U.S. corn production forecasts for 2002 have followed the pattern of the 2001 forecasts – down in September and up in October (Table 3). Over the past 20 years there have been six years (other than 2002) when this same pattern was followed. In five of those years, the October forecast was followed by a larger forecast in November. The forecast was unchanged in one year. In the six similar years, the November forecast has differed from the October forecast by 0 to 2.6 percent. The average increase was 1.15 percent. An increase of about 1 percent this year would result in a November forecast of 9.06 billion bushels, about 90 million above the October forecast. It is also worth noting that in the six years used in this comparison, the January estimate was below the November estimate three times, above once and about unchanged twice. Finally, the January estimate was above the October forecast three times, below twice, and unchanged once.

While historical patterns of production forecasts may be interesting, they do not have much forecasting power – each year is fundamentally different. Our expectation is that the 2002 crop size will be near the current projection.

Prospects for Domestic Use

Domestic use of corn for seed, food, and industrial purposes has shown a year-over-year increase every year since 1975 (with the exception of the small crop year of 1995-96).

Annual consumption has increased by about 340 million bushels over the past five years, with use up nearly 100 million bushels in 2001-02 (Table 4). Much of the recent expansion in use has been for ethanol production. Use in that category accounted for 35 percent of total seed, food, and industrial (FSI) use in 2001-02. The USDA projects FSI use at 2.17 billion bushels during the current marketing year, up 115 million bushels from the use of last year (Table 4). Use for ethanol is projected at 820 million bushels, up 15 percent.

Domestic feed and residual use of corn during the current marketing year will be supported by lower use of sorghum, projected to be down by 77 million bushels. However, fewer animals and perhaps lower slaughter weights should result in an overall decline in feed grain consumption during the current year. For the fourth quarter of 2002 through the third quarter of 2003 (roughly equivalent to the 2002-03 corn marketing year), the USDA projects that beef production will be down 2.4 percent from the level of production during the same period last year. Pork production is expected to be down 0.8 percent during the same period. The largest declines are expected to be in the last half of that period, 4.7 percent for beef and 2.3 percent for pork. Total poultry production is expected to expand at a modest 1.4 percent. The total number of grain consuming animal units is expected to decline by 1.2 percent.

The pattern of projected livestock production suggests that feed and residual use of corn should remain high, relative to use of last year, during the first quarter or two of the 2002-03 marketing year, but decline during the last half of the year. For the year, the USDA has projected a 3.6 percent decline in feed and residual use of corn and a 4.7 percent decline in feed and residual use of all feed grains. The rate of consumption will be revealed in the USDA's December *Grain Stocks* report to be released on January 10, 2003. For now, the recent recovery in hog prices and decline in corn prices suggests that use could exceed the USDA projection. We are using a forecast for feed and residual use of corn of 5.725 billion bushels, 2.3 percent below use of a year ago (Table 4).

Export Prospects

The magnitude of annual U.S. corn exports has been remarkably stable over the past four marketing years, ranging from 1.9 to 1.981 billion bushels (Table 4). For the current year, U.S. corn exports are expected to be supported by smaller feed grain crops in Argentina, Eastern Europe, and Canada (Table 5). However, exports will be limited by an expected small decline in feed grain consumption outside of the U.S. and by expanding exports from China. The influence of China is reflected in the low level of U.S. corn sales to South Korea. As of October 3, the USDA reported that only 71,000 bushels of U.S. corn had been sold to South Korea for delivery during the current marketing year. Last year, total commitments stood at 15.5 million bushels. Export commitments to Canada as of October 3 totaled 17.3 million bushels, up from 11.6 million on the same date last year. Commitments to our largest customer, Japan, are marginally larger than a year ago; commitments to Taiwan are down about 9.5 million bushels (22.7 percent); and commitments to Mexico are up 4.5 million (9.3 percent).

As of October 10 (about 6 weeks into the marketing year) shipments of U.S. corn are running 33 percent lower than a year ago and total commitments are down 12 percent. For the year, the USDA projects exports at 2 billion bushels, 100 million more than exported last year. Shipments will need to average about 40 million bushels per week to reach that level and new sales will need to average about 34 million per week. The recent decline in corn prices along with renewed export activity at the Gulf (slowed by hurricanes) and the West Coast should result in a jump in export activity. For now, the USDA projection appears achievable, but the market is eager to see increased sales.

Stocks to Decline Sharply

Based on the projections developed here, stocks of U.S. corn at the end of the current marketing year will be reduced to just under 700 million bushels. That would be the lowest level of year ending stocks in seven years,

and only about 180 million bushels above minimum pipeline inventories. Importantly, however, current forecasts suggest that U.S. corn supplies will be adequate to maintain consumption at a record level. That is, it does not appear that demand is strong enough to require extremely high prices in order to ration consumption. Price has not had to ration consumption since the 1995-96 marketing year. For the past four years, low prices were required to insure consumption of consecutive large crops. While stocks are being reduced, 2002-03 is not a classic short crop year that requires a reduction in consumption. Some try to characterize a short crop year based on the size of the crop, but the appropriate comparison is the magnitude of supplies in relation to market size.

Prospects for the 2003 Crop

If U.S. and world production, demand, and consumption are near current projections, both U.S. and world inventories of feed grains will be reduced to low levels by the end of the current marketing year, although significant price rationing will not be required. That scenario implies that prices will remain at modest levels for the near term, but 2003 production prospects will have significant price implications six months from now. The situation is made even more interesting by the fact that low stocks of feed grains, wheat, and soybeans means that larger production of all major crops is needed in 2003 to prevent prices from going even higher. A return to trend yields in North America would contribute to larger production, but some increase in acreage may also be required. U.S. producers will likely increase winter wheat seedings, but the U.S. does not have to lead the way in increased wheat production since a large number of countries can increase wheat production. For soybeans, South America will likely continue to expand soybean production capacity to exploit its comparative advantage in producing soybeans, particularly in Brazil. It may fall to the U.S. to increase production of corn and feed grains. In general, the U.S. has a comparative advantage in corn production and it would be logical for the U.S. to expand corn acreage in 2003. Current prices offered

by the markets for the 2003 crop generally favor corn production over soybean production. The ratio of the soybean loan rate to the cash price of corn is about 2.15 to 1. Crop budgets based on average yields and costs and current prices suggest a higher return to corn production than soybean production in many areas.

Planted acreage of corn in the U.S. has been relatively stable under the 1996 farm legislation, but has still varied by as much as 4.4 million acres over the past 5 years (Table 6). While acreage has peaked at 80.165 million acres during that period (1998), March planting intentions were as high as 81.416 million acres (1997). Acreage in 2003 could be at or above the recent highs, depending on price changes between now and spring, spring weather conditions, and the magnitude of increase in winter wheat seedings. Seedings of winter wheat will be revealed on January 10.

If corn acreage in 2003 in each major corn producing states was at the highest level of the past 7 years, U.S. acreage would be about 4.3 million above planted acreage in 2002 (calculated from Table 7). That may represent the upper bound on 2003 acreage. A more reasonable expectation might be for an increase of 2.5 to 3.0 million acres. Planted acreage of 81.5 million would project to harvested acreage of about 74.5 million acres under normal conditions. That would be about 4 million acres above the current projection of harvested acreage for 2002.

The U.S. average corn yield will be as important, or probably more important, than acreage in 2003. Even with harvested acreage of 74.5 million, a repeat of this year's average yield would produce a crop of less than 9.5 billion bushels. A crop of that size would require some price rationing if "normal" market size is near 9.9 billion bushels. A repeat of the record yield of 1994 would produced a crop of 10.3 billion bushels, while a trend yield near 140 would produce a crop of 10.4 billion bushels. A poor growing season, resulting in an average yield of 120 bushels, would result in a crop of less than 9 billion bushels.

Price Prospects

December 2002 corn futures peaked at \$2.96 just before the release of the USDA's September *Crop Production* report, but traded below \$2.45 just after the October report. The average spot cash price of corn in central Illinois was at \$2.785 on September 11, declined to \$2.325 on October 11, and recovered to \$2.40 on October 15.

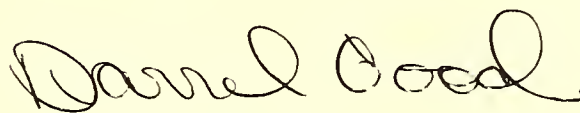
It is expected that prices will remain under some pressure through harvest, particularly if the production forecast increases in November. Prices are expected to stabilize modestly above harvest lows during the winter months and then to become more volatile at somewhat higher levels during the spring. Based on current projections, a season's average price of \$2.45 is expected. The final production estimate, along with the actual rate of consumption could alter that projection. Each 50 million bushel change in the production forecast, with all other factors remaining constant, would alter the projection of the season's average price by about \$.05 per bushel.

The average central Illinois basis was \$-0.14 on October 15, compared to \$-0.275 on the same date last year and the three-year average of \$-0.29. The spread between July 2003 and December 2002 futures on October 15 was \$0.12, so that the July basis was \$-0.26. With a "normal" spring basis of \$-0.10, the market was offering a return of \$0.16 to store corn for seven months.

The price structure is offering little return for storage. Returns are likely negative except for corn that is stored on the farm and under CCC loan. The price structure, then, is encouraging harvest sales of corn. However, the tight balance sheet and the prospects for higher prices next spring suggest that ownership of some of the crop into next spring should be considered. Where commercial storage is required, a lower cost alternative for ownership might be basis contracts, ownership of futures, or ownership of call options. The premium for nearest-the-money July call options is about \$.165. When combined with the opportunity

cost of basis gain, the cost of owning corn with call options from harvest to mid-June is about \$.33 per bushel. Commercial storage costs for the same period (without including interest costs) vary considerably by location, but might typically be close to \$.30 (including drying and shrink to 14 percent moisture) in central Illinois. That is, ownership with call options would require only marginally higher cost than commercial storage, but provides the additional protection from lower prices. If interest opportunity cost on the stored crop is included, call options are less expensive than commercial storage. The cost of ownership with basis contracts and futures includes the transaction cost, about \$.02 per bushel, plus the opportunity cost of basis gain, about \$.16 per bushel, for a total of about \$.18 per bushel. For basis contracts, there would be an interest opportunity cost on the unpaid portion of the harvest price. After on-farm storage, these two alternatives are the lowest cost ownership alternatives. Like storage, however, they offer no downside price protection.

For the 2002 crop, then, higher prices and a strong basis suggest that harvest sales should be relatively large and that plans should be made for owning the remainder of the crop into the spring of 2003. Sales of the 2003 crop could become much more attractive in the spring of 2003. While confirmation of increased acreage would be somewhat bearish, planting delays or a poor start to the growing season would be price supportive. The December futures contract has a strong history of trading above \$2.75 (93 percent of the time over the past 30 years). December 2003 futures have not yet traded to that level.



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Table 1. Corn Quarterly Balance Sheet

	1981-82	1982-83	1983-84	1984-85	1985-86	1986-87	1987-88	1988-89	1989-90	1990-91	1991-92	1992-93	1993-94	1994-95	1995-96	1996-97	1997-98	1998-99	1999-00	2000-01	2001-02
	million bushels																				
September 1 stocks	1,392	2,537	3,523	1,006	1,648	4,040	4,882	4,259	1,930	1,344	1,521	1,100	2,113	850	1,558	426	883	1,308	1,787	1,718	1,899
Production	8,119	8,235	4,174	7,672	8,875	8,226	7,131	4,929	7,532	7,934	7,475	9,477	6,338	10,051	7,400	9,233	9,207	9,759	9,431	9,915	9,507
TOTAL*	9,511	10,772	7,699	8,680	10,534	12,267	12,016	9,191	9,464	9,262	9,016	10,584	8,472	10,910	8,974	9,672	10,099	11,085	11,232	11,639	11,416
September-November																					
Seed, food, ind.	173	208	227	244	276	295	296	302	312	338	361	370	383	410	417	388	435	450	459	466	489
Export	519	443	493	503	415	318	396	471	582	383	421	488	435	449	660	487	380	450	535	507	448
Feed, residual	1,218	1,215	1,326	1,301	1,219	1,348	1,551	1,344	1,487	1,619	1,673	1,814	1,701	1,963	1,778	1,885	2,030	2,118	2,188	2,131	2,207
TOTAL	1,910	1,866	2,046	2,048	1,910	1,961	2,243	2,117	2,381	2,339	2,455	2,672	2,519	2,822	2,856	2,759	2,845	3,018	3,182	3,104	3,144
December 1 stocks	7,601	8,906	5,652	6,631	8,615	10,305	9,771	7,072	7,082	6,940	6,547	7,906	5,937	8,080	6,106	6,903	7,247	8,052	8,039	8,530	8,265
Seed, food, ind.	166	192	212	236	262	281	288	301	313	330	362	365	379	410	405	400	425	434	447	465	481
Export	470	510	506	580	460	313	405	502	682	471	362	463	330	590	562	525	380	465	465	415	451
Feed, residual	1,199	1,305	1,069	1,192	1,306	1,463	1,444	1,065	1,276	1,351	1,267	1,401	1,240	1,492	1,344	1,486	1,503	1,460	1,529	1,607	1,540
TOTAL	1,835	2,007	1,787	2,008	2,028	2,057	2,137	1,868	2,271	2,152	1,991	2,229	1,949	2,493	2,311	2,411	2,308	2,359	2,441	2,488	2,471
March 1 stocks	5,766	6,899	3,865	4,623	6,587	8,248	7,636	5,204	4,812	4,789	4,561	5,678	3,996	5,592	3,800	4,494	4,940	5,698	5,602	6,043	5,795
Seed, food, ind.	201	228	253	294	307	333	337	353	376	384	414	414	423	452	433	471	470	495	512	514	545
Export	596	475	513	475	201	496	510	592	601	454	371	411	270	568	610	433	350	497	451	455	496
Feed, residual	1,089	1,272	954	1,019	1,091	1,088	951	841	993	960	1,042	1,146	950	1,159	1,044	1,097	1,084	1,097	1,058	1,153	1,162
TOTAL	1,886	1,975	1,720	1,788	1,599	1,917	1,798	1,786	1,970	1,798	1,828	1,971	1,642	2,180	2,087	2,001	1,904	2,089	2,022	2,122	2,203
June 1 stocks	3,880	4,924	2,145	2,836	4,990	6,332	5,839	3,419	2,843	2,992	2,739	3,709	2,360	3,415	1,718	2,497	3,040	3,616	3,586	3,924	3,597
Seed, food, ind.	193	227	238	293	307	324	331	341	369	374	396	407	429	442	373	460	475	467	496	511	540
Export	412	393	374	292	151	365	406	463	503	419	430	301	293	570	396	353	394	569	485	564	505
Feed, residual	739	781	527	603	489	761	843	685	627	679	816	891	789	846	527	809	865	795	890	951	953
TOTAL	1,344	1,401	1,139	1,188	957	1,450	1,580	1,489	1,499	1,472	1,642	1,599	1,511	1,858	1,295	1,617	1,734	1,831	1,869	2,026	1,998
September 1 stocks	2,537	3,523	1,006	1,648	4,040	4,882	4,259	1,930	1,344	1,521	1,100	2,113	850	1,558	426	883	1,308	1,787	1,718	1,899	1,599
Annual																					
Seed, food, ind.	733	855	930	1,067	1,152	1,233	1,251	1,298	1,370	1,425	1,533	1,556	1,613	1,715	1,628	1,714	1,805	1,846	1,913	1,957	2,055
Export	1,997	1,821	1,887	1,850	1,227	1,492	1,716	2,029	2,367	1,727	1,584	1,663	1,328	2,177	2,228	1,797	1,504	1,981	1,937	1,941	1,900
Feed, residual	4,245	4,573	3,876	4,115	4,114	4,660	4,789	3,934	4,382	4,609	4,798	5,252	4,680	5,460	4,693	5,277	5,482	5,471	5,665	5,842	5,862
TOTAL	6,975	7,249	6,693	7,032	6,494	7,385	7,757	7,260	8,120	7,761	7,916	8,471	7,622	9,352	8,548	8,789	8,791	9,298	9,524	9,740	9,817

* Includes imports for the entire year.

Table 2. United States Corn Yield Estimates

	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002
	bushels per acre																											
July 1	93.0	90.5	89.4	90.1	95.8	99.3	95.9	...	...	...	...	...	...	...	87.0													
August 1	87.4	86.7	87.3	96.1	102.1	93.0	104.3	113.9	99.9	107.9	110.6	120.4	121.4	78.5	112.8	117.7	107.8	121.3	116.0	128.4	125.6	118.7	125.3	130.0	134.7	141.9	133.9	125.2
September 1	85.1	82.8	89.7	100.3	104.6	91.8	107.1	113.9	85.1	106.3	113.3	119.7	119.9	78.5	112.4	121.7	106.1	121.4	113.1	129.0	121.1	120.2	125.2	132.0	132.2	141.8	133.5	125.4
October 1	86.2	82.7	90.8	100.7	106.4	90.8	109.0	114.2	82.9	105.5	115.1	119.2	119.9	80.2	114.4	120.3	108.8	123.8	110.3	133.8	116.6	123.0	125.8	132.0	133.5	139.6	136.3	127.2
November 1	87.2	85.5	91.5	101.2	109.2	90.8	109.2	114.2	80.5	105.9	116.6	119.3	120.3	82.3	116.6	119.0	108.6	129.3	103.1	138.4	113.7	126.5	126.4	133.3	134.5	137.7	138.0	
January 1	86.2	87.4	90.8	101.2	109.4	91.0	109.9	114.8	81.6	106.6	118.0	119.3	119.4	84.6	116.2	118.5	108.6	131.4	100.7	138.6	113.5	127.1	127.0	134.4	133.8	137.1	138.2	
FINAL	86.4	88.0	90.8	101.0	109.5	91.0	108.9	113.2	81.1	106.7	118.0	119.3	119.8	84.6	116.3	118.5	108.6	131.5	100.7	138.6	113.5	127.1	126.7	134.4	133.8	136.9		

Table 3. United States Corn Production Estimates

	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002
	million bushels																					
July	7,116	...	...	...	...	...	...	5,200														
August	7,735	8,315	5,237	7,668	8,266	8,316	7,231	4,479	7,348	7,850	7,418	8,762	7,423	9,214	8,122	8,695	9,276	9,592	9,561	10,369	9,266	8,886
September	7,940	8,319	4,390	7,552	8,469	8,268	7,141	4,462	7,321	8,118	7,295	8,770	7,229	9,257	7,832	8,804	9,268	9,738	9,381	10,362	9,238	8,849
October	8,081	8,315	4,259	7,498	8,603	8,220	7,139	4,553	7,449	8,022	7,479	8,938	6,962	9,602	7,541	9,012	9,312	9,743	9,467	10,192	9,430	8,970
November	8,097	8,330	4,121	7,527	8,717	8,223	7,166	4,671	7,590	7,935	7,479	9,329	6,503	10,010	7,374	9,265	9,359	9,836	9,537	10,054	9,546	
January	8,201	8,397	4,204	7,656	8,865	8,253	7,064	4,921	7,527	7,933	7,474	9,479	6,344	10,103	7,374	9,293	9,366	9,761	9,437	9,968	9,507	
FINAL	8,119	8,235	4,174	7,672	8,875	8,226	7,131	4,929	7,532	7,934	7,475	9,477	6,338	10,051	7,400	9,233	9,207	9,759	9,431	9,915		

Table 4. Corn Annual Balance Sheet

	1989-90	1990-91	1991-92	1992-93	1993-94	1994-95	1995-96	1996-97	1997-98	1998-99	1999-00	2000-01	2001-02	2002-03 ^a
	million bushels													
Carryin	1,930	1,344	1,521	1,100	2,113	850	1,558	426	883	1,308	1,787	1,718	1,899	1,599
Production	<u>7,532</u>	<u>7,934</u>	<u>7,475</u>	<u>9,477</u>	<u>6,338</u>	<u>10,051</u>	<u>7,400</u>	<u>9,233</u>	<u>9,207</u>	<u>9,759</u>	<u>9,431</u>	<u>9,915</u>	<u>9,507</u>	<u>8,970</u>
TOTAL ^b	9,464	9,282	9,016	10,584	8,472	10,910	8,974	9,672	10,099	11,085	11,232	11,659	11,416	10,584
Seed, food, industrial	1,370	1,425	1,533	1,556	1,613	1,715	1,628	1,714	1,805	1,846	1,913	1,957	2,055	2,170
Export	2,367	1,727	1,584	1,663	1,328	2,177	2,228	1,797	1,504	1,981	1,937	1,935	1,900	2,000
Feed and residual	<u>4,382</u>	<u>4,609</u>	<u>4,798</u>	<u>5,252</u>	<u>4,680</u>	<u>5,460</u>	<u>4,693</u>	<u>5,277</u>	<u>5,482</u>	<u>5,471</u>	<u>5,664</u>	<u>5,848</u>	<u>5,862</u>	<u>5,725</u>
TOTAL	8,120	7,761	7,915	8,471	7,621	9,352	8,548	8,789	8,791	9,298	9,515	9,741	9,817	9,895
Carryout	1,344	1,521	1,100	2,113	850	1,558	426	883	1,308	1,787	1,718	1,899	1,599	689
U.S. average price	\$2.36	\$2.28	\$2.37	\$2.07	\$2.50	\$2.26	\$3.24	\$2.71	\$2.45	\$1.94	\$1.82	\$1.85	\$1.97	\$2.45

^a Projected^b Includes imports

Table 5. World Coarse Grain Production

	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002
	million metric tons																			
United States	137.1	237.7	274.9	252.8	215.9	149.7	221.4	230.7	218.6	277.4	186.5	284.9	210.0	265.7	260.4	271.5	263.2	273.1	261.9	244.5
Former USSR	99.0	90.5	100.0	105.9	113.7	97.5	104.8	99.4	80.4	95.3	95.6	79.2	57.4	52.0	67.9	38.0	40.5	49.5	62.3	58.8
Western Europe	86.2	103.6	101.4	94.0	93.3	99.5	102.2	97.6	104.3	93.8	96.1	86.6	88.5	103.8	109.4	105.6	102.6	107.2	105.7	105.6
China	92.7	96.2	82.3	87.0	95.8	94.2	93.5	111.7	112.3	108.4	117.8	114.3	124.5	141.3	114.7	144.2	137.2	114.0	121.9	132.9
Eastern Europe	67.1	72.8	65.5	73.9	63.9	61.3	60.2	51.4	64.7	43.2	44.5	46.9	51.4	50.0	59.0	51.0	54.7	37.0	51.8	48.2
Canada	21.0	22.0	23.9	25.5	25.5	19.7	23.5	24.8	21.8	19.6	24.0	23.4	24.1	28.2	25.1	26.6	26.8	24.3	22.4	19.4
India	34.1	31.4	25.8	26.6	23.5	31.3	34.6	32.6	25.9	36.8	31.0	30.1	29.8	34.3	30.9	31.7	30.5	31.6	34.7	27.5
Brazil	21.5	22.5	21.7	27.3	25.4	26.7	22.5	24.4	31.4	29.9	33.8	38.2	33.2	36.6	31.3	33.5	32.6	42.7	36.7	38.2
Argentina	17.4	18.9	17.4	13.0	13.1	7.3	8.3	10.8	14.5	14.1	13.3	13.9	14.1	18.9	24.7	17.8	21.5	19.6	18.5	16.3
South Africa	5.1	9.0	8.9	7.9	7.9	13.0	9.5	8.9	3.6	10.7	14.0	5.4	11.0	10.7	8.2	8.1	11.1	7.8	9.5	9.9
World	685.4	814.1	843.3	835.2	791.5	731.2	802.6	819.5	804.2	869.1	799.9	873.6	802.9	908.3	883.2	890.1	876.4	860.8	887.6	863.4
Excluding the U.S.	548.3	576.4	568.4	582.4	575.7	581.5	581.2	588.8	585.6	591.7	613.4	588.7	592.9	642.6	622.8	618.4	613.2	587.7	625.7	618.9

Source: USDA, FAS, World Crop Production, Oct. 2002 and earlier issues.

Table 6. United States Corn Planting Intentions, Actual Plantings, and Acres Harvested

Year	Planted Acreage			Actual	Harvested Acreage
	February/January Intentions	March Intentions	June Intentions		
			thousand acres		
1976	80,822	82,727	84,092	84,588	71,506
1977	84,526	83,923	82,735	84,328	71,614
1978	80,944	80,237	78,717	81,675	71,930
1979	80,676	79,209	79,751	81,394	72,400
1980	83,131	82,022	83,478	84,043	72,961
1981	...	83,977	84,677	84,097	74,524
1982	...	84,735	82,129	81,857	72,719
1983	69,569 ^a	58,812	60,129	60,217	51,479
1984	...	81,766	79,940	80,617	71,897
1985	...	82,021	83,217	83,398	75,209
1986	...	78,066	76,646	76,580	68,907
1987	...	67,556	66,024	66,200	59,505
1988	...	66,926	67,519	67,717	58,250
1989	...	73,253	72,790	72,322	64,783
1990	...	74,804	74,574	74,166	66,952
1991	77,500	76,124	75,909	75,957	68,822
1992		79,007	79,335	79,311	72,077
1993		76,486	74,259	73,239	62,933
1994		78,625	78,767	78,921	72,514
1995		75,323	72,800	71,479	65,210
1996		79,920	80,355	79,229	72,644
1997		81,416	80,227	79,537	72,671
1998		80,781	80,798	80,165	72,589
1999		78,219	77,611	77,386	70,487
2000		77,881	79,579	79,551	72,740
2001		76,693	76,109	75,752	68,808
2002		79,047	78,847		(70,541)

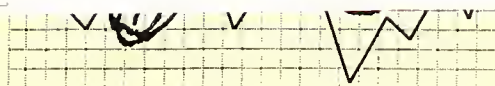
^a February

Table 7. Planted Acreage of Corn by State

State	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002
	thousand acres												
Georgia	660	600	750	650	600	400	580	550	500	350	360	265	330
Illinois	10,600	11,200	11,200	10,590	11,600	10,200	11,000	11,200	10,600	10,800	11,200	11,000	11,600
Indiana	5,600	5,700	6,100	5,550	6,100	5,400	5,600	5,900	5,800	5,800	5,700	5,800	5,400
Iowa	12,800	12,500	13,200	12,000	13,000	11,700	12,700	12,200	12,500	12,100	12,300	11,700	12,200
Kansas	1,600	1,800	1,850	2,000	2,280	2,150	2,500	2,750	3,000	3,150	3,450	3,450	3,150
Kentucky	1,350	1,400	1,420	1,370	1,350	1,280	1,300	1,270	1,300	1,320	1,330	1,200	1,160
Michigan	2,400	2,600	2,700	2,500	2,550	2,450	2,650	2,500	2,300	2,200	2,200	2,200	2,350
Minnesota	6,700	6,600	7,200	6,300	7,000	6,700	7,500	7,000	7,300	7,100	7,200	6,800	7,400
Missouri	2,100	2,300	2,500	2,200	2,400	1,650	2,750	2,700	2,650	2,650	2,850	2,700	2,800
Nebraska	7,700	8,200	8,300	8,000	8,600	8,000	8,500	8,900	8,800	8,600	8,500	8,100	8,400
North Carolina	1,200	1,050	1,150	1,000	1,000	800	1,000	960	860	750	730	700	770
Ohio	3,700	3,700	3,800	3,500	3,700	3,300	2,900	3,800	3,550	3,450	3,550	3,400	3,200
Pennsylvania	1,380	1,400	1,380	1,370	1,400	1,380	1,450	1,550	1,550	1,500	1,550	1,500	1,400
South Dakota	3,400	3,750	3,800	3,350	3,800	2,800	4,000	3,800	3,900	3,600	4,300	3,800	4,100
Tennessee	620	620	740	660	670	640	770	700	700	630	650	630	690
Texas	1,650	1,700	1,750	2,000	2,150	2,100	2,100	2,000	2,400	1,950	2,100	1,600	2,000
Wisconsin	3,700	3,800	3,900	3,400	3,750	3,650	3,900	3,850	3,700	3,600	3,500	3,400	3,600
United States	74,171	75,951	79,325	73,323	79,158	71,245	79,487	79,537	80,165	77,386	79,551	75,752	78,847

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SOYBEANS: SMALLER U.S. CROP, WILL SOUTH AMERICA FILL THE GAP?

OCTOBER 2002

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UNIVERSITY OF ILLINOIS
URBANA-CHAMPAIGN

Summary

The USDA's October *Crop Production* report projected the 2002 U.S. soybean harvest at 2.654 billion bushels, unchanged from the September forecast and 237 million smaller than the 2001 crop. The U.S. average yield is projected at 37 bushels per acre, down 2.6 bushels from the average of a year ago. The 2002 crop is well below that of a year ago in most eastern growing areas and in far western growing areas. The largest increase occurred in Minnesota.

The smaller U.S. crop will require a significant reduction in use during the 2002-03 marketing year. That reduction is expected to come in the export of U.S. soybeans even at relatively low prices due to an anticipated increase in South American soybean production. The USDA projects that the 2003 harvest from the crop just being planted will be 243 million bushels larger than the 2002 crop.

Stocks of U.S. soybeans will be reduced to the lowest level in six years by the end of the current marketing year. If the South American crop is large and soybean prices remain low, U.S. producers will likely reduce soybean acreage in 2003. For the current year, the average farm price of soybeans is expected to be near \$5.45, nearly \$1.00

higher than the annual average of the past three years. If South American production is less than currently projected, or if U.S. average yields do not recover in 2003, prices could move higher than currently projected.

Smaller U.S. Crop Confirmed

At 2.654 billion bushels, the USDA's October projection of the U.S. soybean crop is unchanged from the September projection and 237 million bushels smaller than the record large 2001 crop (Table 1). The projection is identical to the size of the 1999 crop. The U.S. average yield is projected at 37 bushels per acre, 2.6 bushels less than the average of a year ago and 4.4 bushels below the record yield of 1994 (Table 2). For the major soybean producing states, the largest year-over-year declines in average yield are projected for Indiana (9 bushels), Ohio (9 bushels), and Nebraska (8 bushels). Higher average yields are expected in Iowa (2 bushels), Michigan (6 bushels), and Minnesota (7 bushels).

The USDA will release another projection of the size of the U.S. crop on November 12 and the final estimate on January 10. In recent years, the November forecast has been reasonably close to the October forecast. The difference over the past five years has ranged from 6 to 46

bushels. The difference between the October forecast and the January estimate has ranged from 5 to 53 million million bushels. The January estimate has been below the October forecast for each of the past four years. For the current year, harvest reports continue to reflect wide variations in average yield, making it difficult to form an expectation about likely changes in subsequent forecasts. For this analysis, we are using the October forecast of total production.

Stocks of soybeans at the end of the 2001-02 marketing year totaled 208 million bushels, about 13 million more than generally expected. The stocks figure validated the estimated size of the 2001 crop, suggesting that seed, feed and residual use of soybeans last year was at a normal level (Table 3).

If the crop is near the October forecast, the supply of U.S. soybeans for the current marketing year will total 2.865 billion bushels, 276 million bushels less than last year's supply and the smallest supply in five years (Table 4). Assuming that year end stocks of soybeans cannot be reduced below about 145 million bushels (5 percent of recent annual consumption), 2.72 billion bushels of soybeans will be available for use during the current marketing year. Use was well above that figure during each of the last two years, reaching a record 2.933 billion bushels in 2001-02.

Domestic Crush Will Remain Large

With a slow rate of expansion in poultry production during the 2002-03 soybean meal marketing year (projected at 1.4 percent by USDA) and a modest decline in beef production (-2.4 percent) and pork production (-0.8 percent), the domestic requirements for soybean meal should grow at a very slow rate during the current

year. Some year-over-year decline in use might be expected in the last half of the marketing year when reductions in beef and pork production accelerate. Domestic soybean meal consumption has grown by 4.3 percent in each of the past two years. A growth of about 2 percent is expected during the current marketing year. At that rate, domestic use would reach 33.66 million tons (Table 5).

The world's growing appetite for soybean meal will be supplied by South America during the year ahead, if that crop is as large as advertised. The USDA projects that consumption of soybean meal in areas other than the U.S. and South America will increase by 5 percent, that South American exports will increase by 10 percent, and that U.S. exports will decline by 13 percent, to 6.6 million tons. U.S. imports of soybean meal are projected to grow from 110,000 tons last year to 240,000 tons during the current year. Based on these projections, the U.S. will need to produce 39.935 million tons of soybean meal during the current marketing year. The required crush to produce that amount of meal depends on the average yield of meal per bushel of soybeans. The average yield has been relatively large the past three years, averaging between 47.6 and 48 pounds. With a yield of 47.6 pounds, crush would need to total 1.678 billion bushels to meet the expected market for soybean meal.

If 1.678 billion bushels of soybeans are crushed, soybean oil production will total 18.458 billion to 18.96 billion pounds, depending on average yield of oil per bushel of soybeans. An estimate of 18.8 billion pounds is used here. Based on the USDA's projection of use of 19.75 billion pounds during the current marketing year, stocks of oil would be reduced to about 1.5 billion pounds by the end of the marketing year (Table 6).

Exports Will Be Lower

If the U.S. crushes 1.678 billion bushels of soybeans during the current year, and if year ending stocks must be a minimum of about 145 million bushels, then only 877 million bushels will be available for export during the current marketing year. The USDA projects exports at 850 million bushels, 21 percent less than exports during the 2001-02 marketing year. Such a large reduction in use of U.S. soybeans can be accomplished without sharply higher prices only if South America expands production in 2003. The USDA currently projects the 2002-03 South American crop at 3.039 billion bushels, 243 million larger than the 2001-02 harvest (Table 7). That increase is almost identical to the reduction in the U.S. crop this year. Production in China is expected to be 13 million bushels larger this year, as is production in all other countries. The largest increase in South America is expected in Brazil, reflecting a 7 percent increase in area and a 3 percent increase in the average yield (Table 8). Even with a large increase in South American soybean production, total oilseed production outside of the U.S. during the current marketing year is expected to grow by only 1.2 percent (Table 9). Of the major oilseed crops other than soybeans, only sunflower seed production is expected to expand.

Smaller oilseed crops around the world and a slow expansion in palm oil production (2 percent) increases the importance of the size of the 2002-03 South American soybean crop. That crop is being planted with some early reports of adverse weather conditions in some areas of Brazil – dry to the north and wet to the south. Reportedly, this pattern is typical of an El-Nino weather system. If weather adversity continues, the market will likely begin to scale back the

expectations of the size of the Brazilian crop. A smaller crop means that higher prices would be required to ration supplies.

Six weeks into the 2002-03 U.S. soybean marketing year finds export inspections running about 18 percent behind the pace of a year ago. Unshipped sales as of October 10 were 13 percent smaller than outstanding sales of a year ago. Almost all of the decline is in sales to the European Union. Sales to China are large, running about 60 percent larger than sales of a year ago. However, the current Chinese policy on importing GMO products is scheduled to expire in December and importers are being told they will have to renew authorization for importing GMO products. This creates some confusion about potential soybean exports to China.

For now, we are using the USDA's export projection of 850 million bushels, but recognize that many key factors impacting total use and the mix of exports and domestic crush are still unfolding. Unless the 2002 U.S. crop is larger than currently projected, the use of U.S. soybeans for all purposes will have to decline during the current marketing year. Whether higher prices will be required to force the decline is still not clear.

2003 Production Prospects

With U.S. and world inventories of wheat, feed grains, and soybeans at low levels, there is a need for increased production of all major crops in 2003. A return to trend yields in the U.S. would contribute to that increase, but there may also be a need to expand acreage of the major crops. The USDA is expected to reveal larger acreage of winter wheat in the U.S. in the January 10 report. At current price levels for the 2003 crops of corn and

soybeans, U.S. producers might also expand corn acreage in 2003 and reduce soybean acreage for the third consecutive year. It would then be left to South America to continue to expand soybean acreage.

Price Prospects

Prospects for the 2002-03 marketing year average price are far from settled. The smaller harvest in the U.S. in 2002, the shaky start to the South American planting season, uncertainty about U.S. acreage in 2003, and mixed signals about Chinese demand suggest that soybean prices will remain fairly volatile and could move significantly in either direction over the next 9 months.

November 2002 soybean futures established a contract high of \$5.91 on September 11, 2002, traded to a low of \$5.2225 on October 9, and moved back to near \$5.50 by mid-October. The average spot cash price of soybeans in central Illinois peaked at \$5.94 on August 15, declined to \$5.01 on October 9, and recovered to \$5.32 on October 17. Since harvest started in mid-September, the average cash price has traded in a range of about \$.65 per bushel. At the middle of October, the average cash price was about \$1.15 per bushel higher than on the same date last year. Most all of that increase was accounted for by higher soybean oil prices. At \$.203 per pound, the crude oil price in central Illinois was 40 percent above the price at the same time last year. At \$167 per ton, the price of 48 percent meal in central Illinois (rail basis) was only about 3 percent higher than on the same date last year.

For the 2002-03 marketing year, current expectations for supply and demand fundamentals project to a season's average price of \$175 per ton for soybean

meal, \$.21 per pound for soybean oil, and \$5.45 for the farm price of soybeans. In mid-October the markets for all three commodities reflected season's average prices slightly below the projected averages.

Marketing decisions for the 2002 crop are complicated by mixed market signals. On one hand, the lack of carry in the price structure offers little return for storing the crop. On the other hand, the small U.S. crop and uncertainty about the upcoming South American crop suggest that there is potential for higher prices. On the surface, this combination suggests that cash soybeans should be sold on a basis contract or sold in the spot market and replaced with futures (or perhaps call options). However, none of these other "ownership" strategies (other than call options) offer protection from declining prices. Maintaining ownership of cash soybeans provides downside risk protection in the form of a loan deficiency payment or marketing loan gain. With cash prices just a few cents above the loan rate in many areas, placing unpriced soybeans in storage and under loan is an attractive strategy (particularly if on-farm facilities are available) even though there is little carry in the market. If weather problems in South America fail to generate higher prices this winter, a second opportunity could be generated by crop concerns in the U.S. in 2003. If prices do not move higher, the net price will be the loan rate minus storage costs.

The price for the 2003 crop is currently below the loan rate. With so much uncertainty about production and demand over the next year, there seems to be little urgency to price that crop.

Issued by Darrel Good
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Table 1. United States Soybean Production Estimates

	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002
	million bushels																							
August 1	2,130	1,880	2,017	2,293	1,843	2,035	1,959	1,979	2,000	1,474	1,905	1,836	1,869	2,079	1,902	2,282	2,246	2,300	2,744	2,727	2,870	2,989	2,867	2,628
September 1	2,174	1,831	2,089	2,314	1,535	2,028	2,063	1,980	1,957	1,472	1,889	1,835	1,817	2,085	1,909	2,316	2,285	2,270	2,746	2,909	2,778	2,900	2,834	2,656
October 1	2,213	1,757	2,107	2,300	1,517	1,972	2,108	1,992	1,968	1,501	1,926	1,823	1,934	2,108	1,891	2,458	2,190	2,346	2,722	2,769	2,696	2,823	2,907	2,654
November 1	2,236	1,775	2,077	2,300	1,535	1,902	2,129	2,009	1,960	1,512	1,937	1,904	1,962	2,167	1,834	2,523	2,183	2,403	2,736	2,763	2,673	2,777	2,923	
January 1	2,268	1,817	2,030	2,277	1,595	1,861	2,099	2,007	1,905	1,539	1,927	1,922	1,986	2,197	1,809	2,558	2,152	2,382	2,727	2,757	2,643	2,770	2,891	
FINAL	2,261	1,798	1,989	2,190	1,636	1,861	2,099	1,943	1,938	1,549	1,924	1,926	1,987	2,190	1,870	2,515	2,174	2,380	2,689	2,741	2,654	2,758		

Table 2. United States Soybean Yield Estimates

	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002
	million bushels																							
August 1	30.3	27.4	30.2	32.3	29.7	30.5	31.5	32.9	34.7	26.0	32.3	32.5	31.8	35.8	33.8	37.6	36.4	36.3	39.5	39.5	39.2	40.7	38.7	36.5
September 1	30.9	27.0	31.2	32.6	24.9	30.3	33.2	33.1	34.0	25.9	32.0	32.4	31.0	35.9	34.0	38.2	37.0	35.8	39.3	40.6	37.9	39.5	38.2	37.0
October 1	31.5	26.0	31.5	32.4	24.7	29.5	33.9	33.3	34.2	26.4	32.6	32.3	33.0	36.3	33.7	40.5	35.5	37.0	39.0	38.7	37.0	38.7	39.2	37.0
November 1	31.8	26.5	31.0	32.4	25.0	28.5	34.2	33.8	34.1	26.6	32.8	33.7	33.5	37.3	32.7	41.5	35.4	37.9	39.2	38.6	36.7	38.0	39.4	
January 1	32.2	26.8	30.4	32.2	25.7	28.2	34.1	33.8	33.7	26.8	32.4	34.0	34.3	37.6	32.0	41.9	34.9	37.6	39.0	38.9	36.5	38.1	39.6	
FINAL	32.1	26.5	30.1	31.5	26.2	28.1	34.1	33.3	33.9	27.0	32.3	34.1	34.2	37.6	32.6	41.4	35.3	37.6	38.9	38.9	36.6	38.1		

Table 3. Soybean Quarterly Balance Sheet

	1982-83	1983-84	1984-85	1985-86	1986-87	1987-88	1988-89	1989-90	1990-91	1991-92	1992-93	1993-94	1994-95	1995-96	1996-97	1997-98	1998-99	1999-00	2000-01	2001-02
	million bushels																			
September 1 stocks	254.5	344.6	175.7	316.1	536.4	436.4	302.5	182.0	239.1	329.0	278.4	292.3	209.1	334.8	183.5	131.8	199.8	348.5	290.2	247.7
Production	2,190.3	1,635.8	1,860.9	2,099.1	1,942.6	1,937.7	1,548.8	1,923.8	1,925.9	1,986.6	2,190.4	1,869.7	2,514.9	2,174.3	2,380.3	2,688.8	2,741.0	2,653.8	2,757.8	2,890.6
TOTAL	2,444.8	1,980.4	2,036.6	2,415.2	2,479.0	2,374.1	1,855.3	2,108.8	2,167.0	2,319.6	2,470.8	2,167.0	2,730.0	2,514.1	2,572.8	2,825.6	2,943.8	3,006.3	3,052.0	3,143.3
September-November																				
Crush	284.2	269.6	253.7	267.5	295.8	293.4	275.4	273.0	304.1	322.0	328.2	329.6	346.2	351.4	360.6	395.8	409.3	426.7	420.9	427.7
Export	245.9	190.6	153.4	166.5	216.5	260.8	138.3	168.5	120.1	167.1	235.9	176.0	230.9	233.6	289.7	365.3	268.5	297.8	315.5	348.3
Seed, residual	-36.2	48.5	14.8	21.5	10.1	64.6	74.8	56.6	58.8	51.5	70.7	79.8	50.9	95.7	97.4	66.9	78.5	98.9	75.6	89.7
TOTAL	493.9	508.7	421.9	455.4	522.4	618.8	488.5	498.1	483.0	540.6	634.8	585.4	628.0	681.7	747.7	826.2	758.8	823.4	812.0	865.7
December 1 stocks	1,950.9	1,471.7	1,614.7	1,959.8	1,956.6	1,755.3	1,366.8	1,610.7	1,684.0	1,779.0	1,836.0	1,573.6	2,102.0	1,833.4	1,825.1	1,999.4	2,186.0	2,182.9	2,240.0	2,275.6
Crush	314.9	262.5	276.4	281.9	320.1	317.3	286.3	304.3	301.4	323.1	335.2	327.2	371.8	359.0	400.7	443.1	408.6	408.1	417.9	446.6
Export	263.6	234.6	230.2	270.9	233.7	258.9	197.0	217.0	179.7	259.6	255.9	212.7	283.5	278.7	333.1	306.4	243.1	315.4	338.4	422.8
Seed, residual	26.6	18.8	47.0	35.7	63.8	33.0	-6.7	33.9	12.8	19.6	29.3	12.1	76.5	5.3	35.5	46.9	77.0	63.2	79.8	70.2
TOTAL	605.1	515.9	553.6	588.5	617.6	609.2	476.6	555.2	493.9	602.3	620.4	552.0	731.8	643.0	769.3	796.5	728.7	786.7	836.1	939.6
March 1 stocks	1,345.8	955.8	1,061.1	1,371.3	1,339.0	1,146.1	890.2	1,055.5	1,190.1	1,177.3	1,215.6	1,021.6	1,370.2	1,190.4	1,055.8	1,202.9	1,457.3	1,396.0	1,403.9	1,336.0
Crush	280.1	240.0	258.2	262.3	297.2	308.3	270.1	290.7	295.5	304.0	325.4	320.4	361.7	334.0	355.7	404.9	396.4	373.9	405.4	429.6
Export	216.2	204.2	153.4	226.4	159.3	185.0	135.5	153.2	146.9	148.2	186.7	120.6	216.6	188.5	165.9	120.0	161.9	205.8	220.8	150.0
Seed, residual	78.9	39.9	41.1	33.7	45.7	-2.5	20.1	15.7	24.2	29.4	20.1	25.3	0.0	44.9	34.3	84.4	50.4	58.9	69.5	71.5
TOTAL	555.2	484.1	452.7	522.4	502.2	490.8	425.7	459.6	466.6	481.6	532.2	466.3	578.3	567.4	555.9	609.2	608.7	621.8	695.7	651.1
June 1 stocks	790.6	471.7	608.4	848.9	836.8	655.3	464.5	595.9	723.5	695.7	683.4	555.3	791.9	622.8	499.9	593.7	848.6	774.4	708.2	684.9
Crush	248.8	210.6	242.1	241.1	265.5	255.5	225.8	278.4	285.9	304.6	290.0	298.4	325.5	324.9	318.7	353.2	375.4	370.1	395.8	395.0
Export	179.5	113.6	61.1	76.3	147.4	97.6	56.2	84.2	110.4	109.0	91.0	79.7	107.0	150.5	93.0	73.9	127.5	171.6	121.3	143.9
Seed, residual	17.7	-28.2	-10.9	-4.9	-12.5	0.3	0.5	-5.8	-1.8	3.1	10.1	-31.9	24.6	-35.2	-43.6	-37.9	-1.3	-55.0	-56.6	-62.2
TOTAL	446.0	296.0	292.3	312.5	400.4	352.8	282.5	356.8	394.5	416.7	391.1	346.2	457.1	439.6	368.1	393.9	501.6	486.7	460.5	476.7
September 1 stocks	344.6	175.7	316.1	536.4	436.4	302.5	182.0	239.1	329.0	278.4	292.3	209.1	334.8	183.5	131.8	199.8	348.5	290.2	247.7	208.2
Annual																				
Crush	1,108.0	982.7	1,030.4	1,052.8	1,178.7	1,174.5	1,057.6	1,146.4	1,186.9	1,253.7	1,278.8	1,275.6	1,405.2	1,369.4	1,435.7	1,595.1	1,589.7	1,578.8	1,650.0	1,698.9
Export	905.2	743.0	598.1	740.1	756.9	801.7	527.0	622.9	557.1	683.9	769.5	599.0	838.0	851.2	881.7	870.4	801.0	973.8	996.0	1,065.0
Seed, residual	87.0	79.0	92.0	85.9	107.0	95.4	88.7	100.4	94.0	103.6	130.2	85.3	152.0	110.4	123.6	160.3	204.6	166.2	168.3	169.2
TOTAL	2,100.2	1,804.7	1,720.5	1,878.8	2,042.6	2,071.6	1,673.3	1,869.7	1,838.0	2,041.2	2,178.5	1,949.9	2,330.9	2,337.0	2,441.0	2,625.8	2,595.3	2,718.8	2,803.10	2,933.1

Table 4. Soybean Balance Sheet -- Years Beginning September 1

	1989-90	1990-91	1991-92	1992-93	1993-94	1994-95	1995-96	1996-97	1997-98	1998-99	1999-00	2000-01	2001-02	2002-03 ^a
Carryin	182	239	329	278	292	209	335	183	132	200	348	290	248	208
Production	1,924	1,926	1,987	2,190	1,870	2,515	2,174	2,380	2,689	2,741	2,654	2,758	2,891	2,654
TOTAL ^b	2,109	2,167	2,320	2,470	2,168	2,729	2,514	2,573	2,826	2,944	3,006	3,052	3,141	2,865
Crush	1,146	1,187	1,254	1,279	1,276	1,405	1,369	1,436	1,597	1,590	1,578	1,641	1,699	1,678
Export	623	557	684	770	589	838	851	882	870	805	975	1,000	1,065	850
Seed, feed, residual	101	94	103	129	94	151	111	123	159	201	163	163	169	165
TOTAL	1,870	1,838	2,041	2,178	1,954	2,394	2,331	2,441	2,626	2,596	2,716	2,804	2,933	2,693
Carryout	239	329	278	292	209	335	183	132	200	348	290	248	208	172
U.S. Average price	\$5.70	\$5.75	\$5.58	\$5.60	\$6.40	\$5.48	\$6.77	\$7.35	\$6.47	\$4.93	\$4.63	\$4.54	\$4.35	\$5.45

^a Projected^b Includes Imports

Table 5. Soybean Meal Balance Sheet -- Years Beginning October 1

	1989-90	1990-91	1991-92	1992-93	1993-94	1994-95	1995-96	1996-97	1997-98	1998-99	1999-00	2000-01	2001-02	2002-03
					thousand tons									
Beginning stocks	173	318	285	230	204	150	223	212	210	218	330	293	383	225
Production	<u>27,719</u>	<u>28,325</u>	<u>29,831</u>	<u>30,364</u>	<u>30,514</u>	<u>33,270</u>	<u>32,527</u>	<u>34,210</u>	<u>38,176</u>	<u>37,792</u>	<u>37,591</u>	<u>39,385</u>	<u>40,332</u>	<u>39,935</u>
TOTAL ^a	27,982	28,688	30,183	30,687	30,788	33,483	32,825	34,524	38,443	38,109	37,970	39,729	40,825	40,400
Domestic	22,291	22,934	23,007	24,251	25,283	26,542	26,611	27,320	28,895	30,657	30,345	31,643	33,000	33,600
Exports	5,319	5,469	6,946	6,232	5,356	6,717	6,002	6,994	9,330	7,122	7,332	7,703	7,600	6,600
TOTAL	27,610	28,403	29,953	30,483	30,639	33,260	32,613	34,314	38,225	37,779	37,678	39,346	40,600	40,200
Ending stocks	318	285	230	204	150	223	212	210	218	330	293	383	225	200
Price ^b	\$186.48	\$181.38	\$189.21	\$193.75	\$192.86	\$162.55	\$235.92	\$270.90	\$185.28	\$138.55	\$167.70	\$173.60	\$168.00	\$175.00

^a Includes imports^b Bulk, Decatur, Illinois 48%

Table 6. Soybean Oil Balance Sheet -- Years Beginning October 1

	1989-90	1990-91	1991-92	1992-93	1993-94	1994-95	1995-96	1996-97	1997-98	1998-99	1999-00	2000-01	2001-02	2002-03
	million pounds													
Beginning stocks	1,715	1,305	1,786	2,239	1,555	1,103	1,137	2,015	1,520	1,382	1,520	1,995	2,877	2,385
Production	<u>13,003</u>	<u>13,406</u>	<u>14,346</u>	<u>13,778</u>	<u>13,951</u>	<u>15,613</u>	<u>15,240</u>	<u>15,752</u>	<u>18,143</u>	<u>18,081</u>	<u>17,825</u>	<u>18,420</u>	<u>18,865</u>	<u>18,800</u>
TOTAL ^a	14,740	14,728	16,132	16,027	15,574	16,733	16,472	17,821	19,723	19,546	19,427	20,488	21,785	21,250
Domestic	12,082	12,163	12,246	13,053	12,941	12,916	13,465	14,263	15,262	15,655	16,056	16,210	16,900	17,350
Exports	<u>1,353</u>	<u>779</u>	<u>1,647</u>	<u>1,419</u>	<u>1,529</u>	<u>2,680</u>	<u>992</u>	<u>2,037</u>	<u>3,079</u>	<u>2,372</u>	<u>1,376</u>	<u>1,401</u>	<u>2,500</u>	<u>2,400</u>
TOTAL	13,435	12,942	13,893	14,472	14,471	15,596	14,457	16,300	18,341	18,027	17,432	17,611	19,400	19,750
Ending stocks ^b	1,305	1,786	2,239	1,555	1,103	1,137	2,015	1,520	1,382	1,520	1,995	2,877	2,385	1,500
Average Price ^c	22.3¢	21.0¢	19.1¢	21.4¢	27.1¢	27.6¢	24.75¢	22.5¢	25.8¢	19.9¢	15.6¢	14.2¢	16.5¢	21.0¢

^a Includes imports^b Bulk, Decatur, Illinois 44%^c Projected

Table 7. Soybean Production by Country

Year	United States	Brazil ^a	Argentina ^a	Paraguay ^a	China	Other	World	All Foreign
million bushels								
1970	1,127	76	2	3	254	165	1,627	500
1971	1,176	135	3	4	290	126	1,734	558
1972	1,283	184	10	4	320	66	1,867	584
1973	1,547	289	18	7	367	64	2,292	745
1974	1,215	363	18	8	349	54	2,007	792
1975	1,547	413	26	10	367	46	2,409	862
1976	1,288	460	51	14	242	128	2,183	895
1977	1,762	350	99	12	266	154	2,643	881
1978	1,870	557	136	20	278	167	2,847	977
1979	2,261	376	132	21	274	191	3,255	994
1980	1,798	558	129	22	292	176	2,975	1,177
1981	1,989	471	152	22	342	186	3,162	1,173
1982	2,190	542	154	19	332	200	3,437	1,247
1983	1,636	571	257	20	359	213	3,056	1,420
1984	1,861	672	248	35	356	248	3,421	1,561
1985	2,099	518	268	22	386	272	3,565	1,466
1986	1,943	636	257	35	427	303	3,601	1,658
1987	1,938	662	356	40	457	359	3,812	1,874
1988	1,549	852	235	60	428	387	3,506	1,957
1989	1,924	747	395	58	376	445	3,945	2,020
1990	1,926	579	423	48	404	446	3,826	1,900
1991	1,987	709	410	48	357	435	3,946	1,959
1992	2,188	827	417	64	378	434	4,308	2,120
1993	1,871	908	456	66	563	454	4,318	2,447
1994	2,517	952	459	81	588	460	5,057	2,540
1995	2,177	887	457	88	496	487	4,591	2,415
1996	2,380	1,003	412	102	486	474	4,857	2,477
1997	2,689	1,194	717	110	551	545	5,806	3,117
1998	2,741	1,150	735	112	557	577	5,872	3,131
1999	2,654	1,257	779	107	525	527	5,875	3,221
2000	2,758	1,433	1,021	129	566	527	6,434	3,676
2001	2,891	1,598	1,084	114	566	500	6,753	3,862
2002	2,654	1,764	1,139	136	573	513	6,779	4,125

^a Harvested in the spring of the following year.

Table 8. South American Soybean Area, Yield and, Production, 1988 to Date

Year	Brazil			Argentina			Paraguay		
	Area mil. ha.	Yield t/ha.	Production mil.t.	Area mil. ha.	Yield t/ha.	Production mil. t.	Area mil. ha.	Yield t/ha.	Production mil. t.
1988-89	12.15	1.94	23.60	4.00	1.63	6.50	0.85	1.90	1.62
1989-90	11.55	1.76	20.34	4.95	2.17	10.75	0.98	1.61	1.58
1990-91	9.75	1.62	15.75	4.75	2.42	11.50	0.89	1.46	1.30
1991-92	9.70	1.99	19.30	4.80	2.32	11.15	0.90	1.44	1.30
1992-93	10.63	2.12	22.50	4.90	2.32	11.35	0.98	1.79	1.75
1993-94	11.44	2.16	24.70	5.40	2.30	12.40	1.05	1.71	1.80
1994-95	11.68	2.22	25.90	5.70	2.19	12.50	1.10	2.00	2.20
1995-96	10.95	2.21	24.15	5.98	2.08	12.43	1.10	2.18	2.40
1996-97	11.80	2.27	26.80	6.26	1.81	11.20	1.20	2.31	2.77
1997-98	13.00	2.50	32.50	6.95	2.80	19.50	1.20	2.49	2.99
1998-99	12.90	2.43	31.30	8.17	2.45	20.00	1.20	2.54	3.05
1999-00	13.60	2.51	34.20	8.58	2.47	21.20	1.15	2.52	2.90
2000-01	13.93	2.80	39.00	10.40	2.67	27.80	1.35	2.61	3.52
2001-02	16.35	2.66	43.50	11.30	2.61	29.50	1.42	2.18	3.10
2002-03	17.50	2.74	48.00	12.00	2.58	31.00	1.45	2.55	3.70

Source: USDA, FAS

Table 9. World Oilseed and Soybean Production

Year	Major Oilseeds			Soybeans		
	United States	Ex-United States	Total	United States	Ex-United States	Total
million metric tons						
1977-78	56.5	93.7	150.20	47.95	23.98	71.93
1978-79	58.6	92.0	150.60	50.86	26.62	77.48
1979-80	72.4	98.1	170.50	61.72	31.79	93.51
1980-81	55.8	99.8	155.60	48.77	32.20	80.97
1981-82	64.0	105.5	169.50	54.13	31.93	86.06
1982-83	68.2	110.1	178.30	59.61	33.96	93.57
1983-84	50.4	115.1	165.50	44.52	38.64	84.16
1984-85	59.2	131.7	191.10	50.64	42.50	93.14
1985-86	65.4	130.8	196.20	57.13	39.92	97.05
1986-87	59.4	135.0	194.40	52.87	45.21	98.08
1987-88	60.6	150.0	210.60	52.75	51.06	103.81
1988-89	50.3	153.9	204.20	42.15	53.49	95.64
1989-90	59.3	153.1	212.40	52.35	55.02	107.37
1990-91	60.6	155.1	215.70	52.42	51.57	103.99
1991-92	64.3	160.0	224.30	54.07	53.31	107.38
1992-93	68.4	158.9	227.40	59.61	57.69	117.30
1993-94	59.5	168.4	227.90	50.92	66.58	117.50
1994-95	79.7	181.2	260.90	68.49	69.14	137.63
1995-96	69.1	190.6	259.70	59.24	65.72	124.96
1996-97	74.8	187.0	261.80	64.78	67.40	132.18
1997-98	83.1	203.9	287.00	73.18	84.90	158.07
1998-99	84.4	210.3	294.70	74.60	85.21	159.81
1999-00	82.3	221.1	303.40	72.22	87.68	159.90
2000-01	84.9	228.5	313.40	75.06	100.04	175.10
2001-02	89.8	233.3	323.10	78.67	105.11	183.78
2002-03	81.9	236.0	317.90	72.23	112.26	184.49

¹WASDE Oct. 2002 and earlier.

Table 10. Soybean Planting Intentions, Actual Plantings, and Acres Harvested

Year	January Intentions	Mar./April Intentions	June/July Intentions	Actual	Harvested Acreage
million acres					
1975	57.5	56.6	54.6	54.6	53.8
1976	50.9	49.3	49.0	50.3	49.4
1977	53.1	55.7	59.0	59.0	57.6
1978	63.9	63.7	64.0	64.7	63.3
1979	66.3	68.8	71.6	71.4	70.3
1980	71.6	71.3	70.3	69.9	67.8
1981	----	69.8	68.5	67.5	66.2
1982	69.5 ^a	---	72.2	70.9	69.4
1983	68.8 ^a	65.8 ^b	63.3	63.8	62.5
1984	65.2 ^a	---	68.0	67.8	66.1
1985	64.4 ^a	---	63.3	63.1	61.6
1986	---	62.0	61.8	60.4	58.3
1987	---	56.9	58.7	58.180	57.172
1988	---	58.0	58.5	58.840	57.373
1989	---	61.7	61.3	60.820	59.282
1990		59.42	58.05	57.795	56.283
1991	58.5	57.12	59.78	59.180	58.169
1992		57.42	59.03	59.180	58.233
1993		59.30	61.58	60.085	57.307
1994		61.12	61.78	61.620	60.809
1995		61.45	63.105	62.495	61.544
1996		62.478	63.895	64.195	63.349
1997		68.800	70.850	70.005	69.110
1998		72.000	72.720	72.025	70.441
1999		73.105	74.205	73.730	72.446
2000		74.871	74.501	74.266	72.408
2001		76.657	75.416	74.105	72.975
2002		72.966	72.993		71.799

^a February 1^b May 1

Table 11. Planted Acres of Soybeans by Region

Region	Western Corn Belt ^a			Eastern Corn Belt ^b			Mid-South ^c			Southeast ^d			East Coast ^e			United States		
	000 acres	%		000 acres	%		000 acres	%		000 acres	%		000 acres	%		000 acres	%	
1976	16,145	32.1		14,530	28.9		13,630	27.1		4,799	9.6		1,122	2.3		50,226	100.0	
1979	23,370	32.7		19,620	27.5		18,470	25.9		8,360	11.7		1,591	2.2		71,411	100.0	
1986	24,875	41.2		18,300	30.3		10,995	18.2		4,680	7.8		1,535	2.5		60,385	100.0	
1987	24,120	41.5		18,580	31.9		10,330	17.8		3,675	6.3		1,475	2.5		58,180	100.0	
1988	24,310	41.3		18,680	31.7		10,460	17.8		3,810	6.5		1,580	2.7		58,840	100.0	
1989	24,790	40.8		19,020	31.3		10,750	17.7		4,460	7.3		1,800	2.9		60,820	100.0	
1990	23,750	41.1		18,490	32.0		10,270	17.2		3,650	6.3		1,635	2.8		57,795	100.0	
1991	26,035	44.0		19,420	32.8		8,990	15.2		3,005	5.1		1,730	2.9		59,180	100.0	
1992	25,400	42.9		20,000	33.8		8,980	15.2		2,915	5.2		1,715	2.9		59,180	100.0	
1993	25,300	42.1		20,410	34.0		9,690	16.1		2,915	4.9		1,770	2.9		60,085	100.0	
1994	27,220	44.1		20,510	33.3		9,220	15.0		2,875	4.7		1,795	2.9		61,620	100.0	
1995	28,210	45.1		21,130	33.8		9,130	14.7		2,290	3.6		1,735	2.8		62,495	100.0	
1996	28,250	44.0		22,370	34.8		9,390	14.6		2,565	4.0		1,620	2.5		64,195	100.0	
1997	32,450	46.4		22,610	32.3		10,390	14.8		2,777	4.0		1,778	2.5		70,005	100.0	
1998	33,700	46.8		23,650	32.8		10,180	14.1		2,690	3.8		1,805	2.5		72,025	100.0	
1999	35,800	48.5		24,100	32.7		9,700	13.2		2,360	3.2		1,770	2.4		73,730	100.0	
2000	37,050	49.9		24,050	32.4		9,070	12.2		2,230	3.0		1,926	2.6		74,266	100.0	
2001	37,700	50.9		24,650	33.3		7,695	10.4		2,145	2.9		1,915	2.5		74,105	100.0	
2002	36,750	50.3		24,150	33.1		8,170	11.2		2,140	2.9		1,833	2.5		73,043	100.0	

^a Iowa, Kansas, Minnesota, Missouri, Nebraska, North Dakota, South Dakota^b Illinois, Indiana, Michigan, Ohio, Wisconsin^c Arkansas, Kentucky, Louisiana, Mississippi, Oklahoma, Tennessee, Texas^d Alabama, Florida, Georgia, North Carolina, South Carolina^e Delaware, Maryland, New Jersey, New York, Pennsylvania, Virginia, West Virginia

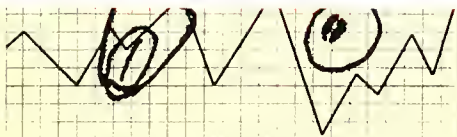
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SOYBEANS: EXPORTS AND ACREAGE WILL DIRECT PRICES

JANUARY 2003

Darrel Good

2003 – No. 1

Summary

At 2.73 billion bushels, the USDA's January estimate of the 2002 U.S. soybean crop was 40 million larger than generally expected. The 2003 South American crop is now expected to total 3.2 billion bushels, 353 million larger than the 2002 harvest and more than enough to offset the 160 million bushel decline in U.S. production.

Year-ending stocks of U.S. soybeans are expected to be modestly smaller than stocks at the beginning of the year, even with a 180 million bushel reduction in use. A small decline in U.S. soybean acreage is also expected in 2003 as acreage of winter wheat and feed grains expands.

The marketing year average price is expected to be sharply higher than that of the previous four years, but the increase will be mostly offset by the lack of loan deficiency payments.

Production, Stocks Exceed Expectations

The USDA's January 10 *Crop Production* report estimated the 2002 U.S. soybean crop at 2.73 billion bushels, 40 million larger than the November forecast and only 161 million smaller than the 2001 crop (Table 1). The U.S. average yield was estimated at 37.8 bushels per acre, 0.3 bushels above the November forecast and only 1.8 bushels below the 2001 average. The 2002 average was the sixth largest in the U.S. in spite of a less than favorable growing season in many

areas (Table 2). Average yields were sub-par in the eastern corn belt, in the southeast, and parts of the western corn belt. High average yields were experienced in Iowa, Michigan, Minnesota, and Wisconsin.

The biggest surprise in the January report involved the adjustments in the estimates of planted and harvested acreage. Planted acreage totaled 73.758 million acres, 765,000 larger than previously estimated and only 317,000 fewer acres than planted in 2001 (Table 3). Harvested acreage, at 72.16 million exceeded the previous estimate by 361,000 and was 815,000 acres less than harvested in 2001. Unharvested acreage in 2003, at 1.598 million, exceeded the normal amount of unharvested acreage by 300,000 to 400,000 acres, reflecting drought conditions in some areas.

Planted acreage in 2002 was down in the western corn belt and the far east; unchanged in the southeast; and up slightly in the eastern corn belt and the mid-south (Table 4). The western corn belt had a smaller percentage of the total acreage for the first time since 1996, but still accounted for about one-half of the acreage.

Stocks of soybeans in the U.S. were estimated at 2.1145 billion bushels on December 1, 2002. Stocks were 161 million less than on the same date last year and at the lowest level in five years. The stocks figure implies that use of soybeans totaled 825 million bushels during the first quarter of the marketing year, 40.5 million less than used in the same quarter last year, but

still very nearly the second largest use for the quarter (Table 5).

Domestic processing use of soybeans during the first quarter of the year totaled 417.4 million bushels, 10.3 million less than during the same quarter last year. The Census Bureau reported that only 297.6 million bushels of U.S. soybeans were exported during the first quarter of the marketing year. This report is in sharp contrast to the USDA's export inspection report that showed about 336 million bushels exported during the quarter and the USDA *Export Sales* report which showed 317 million bushels exported in the quarter. It is not unusual for these reports to show fairly large differences in soybean exports, but the differences are very large this year. The small export estimate by the Census Bureau results in a large seed, feed, and residual use of soybeans during the first quarter of the year. At 110.2 million bushels, that estimate is 20.5 million larger than use during the same quarter last year and 11.3 million larger than the previous record use in 1999. Typically, the large residual use in the first quarter of the year is offset by a large negative use in the fourth quarter. There have been a few years, however, when that did not happen. The most recent was in 1998-99, another year when the difference between the export estimates from the Census Bureau and the USDA was very large (46 million bushels for the year).

The large unexplained use of soybeans during the first quarter of this year may be resolved by subsequent stocks estimates, may mean that a large difference in USDA and Census export estimates will persist, or may indicate the 2002 crop was slightly over estimated. Right now, it appears that the most likely outcome will be an unresolved difference in USDA and Census Bureau export estimates, resulting in an inflated residual use for the year.

Rate of Consumption Declining

The lower level of domestic processing of soybeans during the first quarter of the year was followed by another year-over-year decline in

December. The slower rate of processing is being driven primarily by a slower rate of soybean meal exports. Based on the USDA's *Export Sales* report, commercial exports for the period October 1, 2002 through January 9, 2003 were 12.4 percent smaller than during the same period last year. Unshipped sales as of January 9 were off 16.8 percent compared to the same date last year. Census Bureau estimates for October and November 2002 showed a 29 percent decline in U.S. meal exports compared to the same two months last year. Most of that decline was in October, with November shipments only 5.6 percent smaller than shipments during November 2001. For the year, the USDA projects a 20 percent reduction in exports for the year.

The decline in U.S. soybean meal exports to date are broad based by destination. Increased shipments to Canada and Mexico have been more than offset by declines to Europe and Asia. The large 2003 South American crop is expected to provide stiff competition for U.S. meal during the last quarter of the marketing year. For the period October 2002 through September 2003, the USDA expects a 14 percent increase in combined exports from Argentina and Brazil. The 20 percent projected decline in U.S. meal exports seems a little severe based on performance to date, but is likely accurate if the South American crop is as large as advertised. We are inclined to use the USDA projection of 6 million tons (Table 6).

Domestic soybean meal use has generally increased over time as domestic livestock and poultry production expanded. Use was up 4.5 percent in 2001-02, stimulated by low prices and heavier livestock slaughter weights. A much slower rate of increase is expected for 2002-03 due to declining livestock production and a modest expansion in poultry production. To date, soybean meal prices during the 2002-03 marketing year (beginning October 1, 2002) have been near the same price as a year earlier, averaging a modest \$165 per ton (central Illinois, 48 percent protein) during the first quarter of the year. As a result, meal prices have been relatively low compared to grain prices,

encouraging some substitution of protein for grain. We project domestic meal use at 33.2 million tons for the year, only about 0.4 percent more than consumed in 2001-02.

Through the first quarter of the marketing year, meal production per bushel of soybeans processed has averaged 47.13 pounds, about .36 pounds less than during the same period last year. If that difference persists for the remainder of the year, the average yield of meal per bushel will be 47.26 pounds for the entire year. If meal imports reach 240,000 tons, as projected by the USDA and year ending stocks are maintained at a normal 250,000 tons, it will be necessary to produce 38.97 million tons of meal in 2002-03. That would require a crush of 1.649 billion bushels, at the current rate of meal yield per bushel.

The yield of oil per bushel of soybeans processed was near record large during the September through November period in 2002, averaging about 11.35 pounds per bushel. The yield during the same quarter last year was 11.14 pounds and the average for all of last year was 11.15 pounds. If the average yield this year remains at 11.35 pounds, a crush of 1.649 billion bushels of soybeans will produce 18.716 billion pounds of oil (Table 7). With beginning stocks of 2.36 billion pounds and imports of 65 million pounds, supplies for the 2002-03 marketing year will total 21.141 billion pounds.

The Census Bureau estimates that 308 million pounds of U.S. soybean oil were exported in October and November 2002, 18 percent less than during the same two months last year. Shipments, however, were small in October and large in November. The USDA's *Export Sales* report showed commercial shipments through January 9 about equal to those of a year ago, although unshipped sales were down 18 percent. For the year, the USDA projects an 8.7 percent reduction in U.S. oil exports from the very high level of a year ago. That projection stands at 2.3 billion pounds.

Domestic use of soybean oil is expected to continue the trend increase of the last several

years. The average annual increase over the past four years has been 2.65 percent. At that rate, use would total 17.39 billion pounds in 2002-03, bringing total use to 19.69 billion pounds and leaving year-end stocks at 1.451 billion pounds (Table 7).

The export picture is clouded by the discrepancies in the estimates of export totals to date. So far this year, shipments and sales to the European Union are reportedly down 27 percent, but commitments to China are up 81 percent. Large unshipped sales, 99 million bushels as of January 9, suggest that shipments will remain large, assuming those sales are honored. The large soybean crop expected in South America (Table 9) should provide an alternative source of soybeans for western Europe, so U.S. sales will likely continue to lag the level of a year ago. The USDA expects combined exports from Argentina and Brazil to grow from 850 million bushels in 2001-02 to 1.2 billion during the current year. The increase in South American production reflects a 9 percent increase in area and an expected rebound in average yields (Table 10).

The USDA now projects U.S. exports for the current marketing year at 930 million bushels and residual use at 78 million bushels. That compares to exports of 1.063 billion and residual use of 83 million during the 2001-02 marketing year. As long as the South American crop makes good progress, the export projection appears realistic. Consumption of U.S. soybeans is projected at 2.744 billion bushels, leaving year end stocks at 196 million bushels, only 12 million less than the level of stocks at the beginning of the year (Table 8).

Will U.S. Acreage Decline in 2003?

U.S. soybean acreage declined in 2001 for the first time in 11 years and declined further in 2002. Still, acreage in 2002 was only 508,000 acres below the record of 2000. The declines were the result of economic incentives, as other crops appear to be more profitable than soybeans. Currently, new crop soybean prices are below the loan rate while the prices of wheat

and feed grains are above the loan rate, suggesting potentially higher returns for these crops in relationship to soybeans. If that price pattern persists, and normal spring weather conditions are encountered, U.S. soybean acreage may decline modestly in 2003.

One widely followed private analyst has projected a 1.1 million acreage reduction in U.S. soybean acreage in 2003. That seems like a modest decline in light of the large increase in winter wheat seedings, higher cotton prices, and a likely sizeable increase in feed grain acreage. We would expect to see 2003 soybean acreage near 72 million acres, with harvested acreage of 71 million.

On a national basis, the U.S. average soybean yield has flattened since the spike in 1994. Since 1996 the U.S. average yield has varied from 36.6 to 39.6 bushels per acre (Table 2). It is difficult to anticipate the average yield in 2003, but it is most likely to be between 36.5 and 40 bushels per acre. At the low end of that range, the 2003 crop would reach only 2.6 billion bushels, requiring a further reduction in the consumption of U.S. soybeans to maintain year ending stocks above 150 million bushels. A crop of that size would likely stimulate another increase in acreage in South America. At the upper end of the yield range, the 2003 crop would total 2.84 billion bushels and would allow consumption of U.S. soybeans to grow by 140 million bushels, or 5 percent, and still maintain year ending stocks above 150 million bushels.

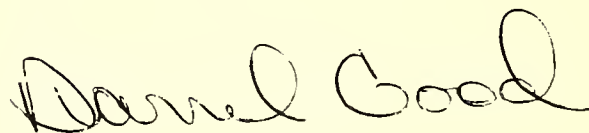
Price Prospects

The average cash price of soybeans in central Illinois was relatively high in early September due to a later than usual start to the harvest and ideas the 2002 crop was much smaller. The price peaked at \$5.895 on September 11, declined to \$5.265 by the end of September, bottomed at \$5.01 on October 9, rebounded to \$5.755 on January 9, and dropped to \$5.41 on January 16. The average price during September through December 2002 was \$5.51, about \$1.20 (30 percent) higher than during the same four months in 2001. During that same

period, the average price of soybean meal in central Illinois (bulk, 48 percent protein) was about \$170 per ton, or 3.5 percent higher than during the same period in 2001. The average price of soybean oil was 21.7 cents per pound, up 44 percent over the price of the previous year.

For the year, the USDA projects the average farm price in a range of \$5.10 to \$5.80. The average price (unweighed) during the first four months of the marketing year was about \$5.38. Prices during the remainder of the 2002-03 marketing year will be influenced by a number of fundamental factors – pace of exports, progress of the South American crop, U.S. acreage, and U.S. weather conditions. The relatively narrow trading range of cash prices in central Illinois so far this year (\$.885) suggests that volatile prices are likely over the next 6 or 7 months. History would suggest that if the October 9, 2002 cash price in central Illinois was the low for the year, that the cash price should trade to \$6.00 or higher sometime before the marketing year is over. The most likely time for the cash market to establish the highest level of the year is in the May through July period. On the other hand, if a new low price is to be established this year, it would most likely occur in July or August. The most important price factor over the next few months will be the prospective size of the 2003 U.S. crop.

Given the likely decline in U.S. acreage and the markets early concern about dry weather conditions, additional pricing opportunities for old and new crop soybeans may well emerge this spring.



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Table 1. United States Soybean Production Estimates

	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002
	million bushels																							
August 1	2,130	1,880	2,017	2,293	1,843	2,035	1,959	1,979	2,000	1,474	1,905	1,836	1,869	2,079	1,902	2,282	2,246	2,300	2,744	2,727	2,870	2,989	2,867	2,628
September 1	2,174	1,831	2,089	2,314	1,535	2,028	2,063	1,980	1,957	1,472	1,889	1,835	1,817	2,085	1,909	2,316	2,285	2,270	2,746	2,909	2,778	2,900	2,834	2,656
October 1	2,213	1,757	2,107	2,300	1,517	1,972	2,108	1,982	1,968	1,501	1,926	1,823	1,934	2,108	1,891	2,458	2,190	2,346	2,722	2,769	2,696	2,823	2,907	2,654
November 1	2,236	1,775	2,077	2,300	1,535	1,902	2,129	2,009	1,960	1,512	1,937	1,904	1,962	2,167	1,834	2,523	2,183	2,403	2,736	2,763	2,673	2,777	2,923	2,690
January 1	2,268	1,817	2,030	2,277	1,595	1,861	2,099	2,007	1,905	1,539	1,927	1,922	1,986	2,197	1,809	2,558	2,152	2,382	2,727	2,757	2,643	2,770	2,891	2,730
FINAL	2,261	1,798	1,989	2,190	1,636	1,861	2,099	1,943	1,938	1,549	1,924	1,926	1,987	2,190	1,870	2,515	2,174	2,380	2,689	2,741	2,654	2,758		

Table 2. United States Soybean Yield Estimates

	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002
	million bushels																							
August 1	30.3	27.4	30.2	32.3	29.7	30.5	31.5	32.9	34.7	26.0	32.3	32.5	31.8	35.8	33.8	37.6	36.4	36.3	39.5	39.5	39.2	40.7	38.7	36.5
September 1	30.9	27.0	31.2	32.6	24.9	30.3	33.2	33.1	34.0	25.9	32.0	32.4	31.0	35.9	34.0	38.2	37.0	35.8	39.3	40.6	37.9	39.5	38.2	37.0
October 1	31.5	26.0	31.5	32.4	24.7	29.5	33.9	33.3	34.2	26.4	32.6	32.3	33.0	36.3	33.7	40.5	35.5	37.0	39.0	38.7	37.0	38.7	39.2	37.0
November 1	31.8	26.5	31.0	32.4	25.0	28.5	34.2	33.8	34.1	26.6	32.8	33.7	33.5	37.3	32.7	41.5	35.4	37.9	39.2	38.6	36.7	38.0	39.4	37.5
January 1	32.2	26.8	30.4	32.2	25.7	28.2	34.1	33.8	33.7	26.8	32.4	34.0	34.3	37.6	32.0	41.9	34.9	37.6	39.0	38.9	36.5	38.1	39.6	37.8
FINAL	32.1	26.5	30.1	31.5	26.2	28.1	34.1	33.3	33.9	27.0	32.3	34.1	34.2	37.6	32.6	41.4	35.3	37.6	38.9	38.9	36.6	38.1		

Table 3. Soybean Planting Intentions, Actual Plantings, and Acres Harvested

Year	January Intentions	Mar./April Intentions	June/July Intentions	Actual	Harvested Acreage
			million acres		
1975	57.5	56.6	54.6	54.6	53.8
1976	50.9	49.3	49.0	50.3	49.4
1977	53.1	55.7	59.0	59.0	57.6
1978	63.9	63.7	64.0	64.7	63.3
1979	66.3	68.8	71.6	71.4	70.3
1980	71.6	71.3	70.3	69.9	67.8
1981	---	69.8	68.5	67.5	66.2
1982	69.5 ^a	---	72.2	70.9	69.4
1983	68.8 ^a	65.8 ^b	63.3	63.8	62.5
1984	65.2 ^a	---	68.0	67.8	66.1
1985	64.4 ^a	---	63.3	63.1	61.6
1986	---	62.0	61.8	60.4	58.3
1987	---	56.9	58.7	58.180	57.172
1988	---	58.0	58.5	58.840	57.373
1989	---	61.7	61.3	60.820	59.282
1990		59.42	58.05	57.795	56.283
1991	58.5	57.12	59.78	59.180	58.169
1992		57.42	59.03	59.180	58.233
1993		59.30	61.58	60.085	57.307
1994		61.12	61.78	61.620	60.809
1995		61.45	63.105	62.495	61.544
1996		62.478	63.895	64.195	63.349
1997		68.800	70.850	70.005	69.110
1998		72.000	72.720	72.025	70.441
1999		73.105	74.205	73.730	72.446
2000		74.871	74.501	74.266	72.408
2001		76.657	75.416	74.075	72.975
2002		72.966	72.993	73.758	72.160

^a February 1^b May 1

Table 4. Planted Acres of Soybeans by Region

Region	Western Corn Belt ^a		Eastern Corn Belt ^b		Mid-South ^c		Southeast ^d		East Coast ^e		United States	
	000 acres	%	000 acres	%	000 acres	%	000 acres	%	000 acres	%	000 acres	%
1976	16,145	32.1	14,530	28.9	13,630	27.1	4,799	9.6	1,122	2.3	50,226	100.0
1979	23,370	32.7	19,620	27.5	18,470	25.9	8,360	11.7	1,591	2.2	71,411	100.0
1986	24,875	41.2	18,300	30.3	10,995	18.2	4,680	7.8	1,535	2.5	60,385	100.0
1987	24,120	41.5	18,580	31.9	10,330	17.8	3,675	6.3	1,475	2.5	58,180	100.0
1988	24,310	41.3	18,680	31.7	10,460	17.8	3,810	6.5	1,580	2.7	58,840	100.0
1989	24,790	40.8	19,020	31.3	10,750	17.7	4,460	7.3	1,800	2.9	60,820	100.0
1990	23,750	41.1	18,490	32.0	10,270	17.2	3,650	6.3	1,635	2.8	57,795	100.0
1991	26,035	44.0	19,420	32.8	8,990	15.2	3,005	5.1	1,730	2.9	59,180	100.0
1992	25,400	42.9	20,000	33.8	8,980	15.2	2,915	5.2	1,715	2.9	59,180	100.0
1993	25,300	42.1	20,410	34.0	9,690	16.1	2,915	4.9	1,770	2.9	60,085	100.0
1994	27,220	44.1	20,510	33.3	9,220	15.0	2,875	4.7	1,795	2.9	61,620	100.0
1995	28,210	45.1	21,130	33.8	9,130	14.7	2,290	3.6	1,735	2.8	62,495	100.0
1996	28,250	44.0	22,370	34.8	9,390	14.6	2,565	4.0	1,620	2.5	64,195	100.0
1997	32,450	46.4	22,610	32.3	10,390	14.8	2,777	4.0	1,778	2.5	70,005	100.0
1998	33,700	46.8	23,650	32.8	10,180	14.1	2,690	3.8	1,805	2.5	72,025	100.0
1999	35,800	48.5	24,100	32.7	9,700	13.2	2,360	3.2	1,770	2.4	73,730	100.0
2000	37,050	49.9	24,050	32.4	9,070	12.2	2,230	3.0	1,926	2.6	74,266	100.0
2001	37,700	50.9	24,650	33.3	7,685	10.4	2,135	2.9	1,905	2.5	74,075	100.0
2002	37,020	50.2	24,690	33.2	8,130	11.0	2,135	2.9	1,783	2.4	73,758	100.0

^a Iowa, Kansas, Minnesota, Missouri, Nebraska, North Dakota, South Dakota^b Illinois, Indiana, Michigan, Ohio, Wisconsin^c Arkansas, Kentucky, Louisiana, Mississippi, Oklahoma, Tennessee, Texas^d Alabama, Florida, Georgia, North Carolina, South Carolina^e Delaware, Maryland, New Jersey, New York, Pennsylvania, Virginia, West Virginia

Table 5. Soybean Quarterly Balance Sheet

	1982-83	1983-84	1984-85	1985-86	1986-87	1987-88	1988-89	1989-90	1990-91	1991-92	1992-93	1993-94	1994-95	1995-96	1996-97	1997-98	1998-99	1999-00	2000-01	2001-02	2002-03
	million bushels																				
September 1 stocks	254.5	344.6	175.7	316.1	536.4	436.4	302.5	182.0	239.1	329.0	278.4	292.3	209.1	334.8	183.5	131.8	199.8	348.5	290.2	247.7	208.0
Production	2,190.3	1,635.8	1,860.9	2,099.1	1,942.6	1,937.7	1,548.8	1,923.8	1,925.9	1,986.6	2,190.4	1,869.7	2,514.9	2,174.3	2,380.3	2,688.8	2,741.0	2,653.8	2,757.8	2,890.6	2,729.7
TOTAL	2,444.8	1,980.4	2,036.6	2,415.2	2,479.0	2,374.1	1,855.3	2,108.8	2,167.0	2,319.6	2,470.8	2,167.0	2,730.0	2,514.1	2,572.8	2,825.6	2,943.8	3,006.3	3,052.0	3,143.3	2,939.7
September-November																					
Crush	284.2	269.6	253.7	267.5	295.8	293.4	275.4	273.0	304.1	322.0	328.2	329.6	346.2	351.4	360.6	395.8	409.3	426.7	420.9	427.7	417.4
Export	245.9	190.6	153.4	166.5	216.5	260.8	138.3	168.5	120.1	167.1	235.9	176.0	230.9	233.6	289.7	365.3	268.5	297.8	315.5	348.3	297.6
Seed, residual	-36.2	48.5	14.8	21.5	10.1	64.6	74.8	56.6	58.8	51.5	70.7	79.8	50.9	95.7	97.4	66.9	78.5	98.9	75.6	89.7	110.2
TOTAL	493.9	508.7	421.9	455.4	522.4	618.8	488.5	498.1	483.0	540.6	634.8	585.4	628.0	681.7	747.7	826.2	758.8	823.4	812.0	865.7	825.2
December 1 stocks	1,950.9	1,471.7	1,614.7	1,959.8	1,956.6	1,755.3	1,366.8	1,610.7	1,684.0	1,779.0	1,836.0	1,573.6	2,102.0	1,833.4	1,825.1	1,999.4	2,186.0	2,182.9	2,240.0	2,275.6	2,114.5
Crush	314.9	262.5	276.4	281.9	320.1	317.3	286.3	304.3	301.4	323.1	335.2	327.2	371.8	359.0	400.7	443.1	408.6	408.1	417.9	446.6	
Export	263.6	234.6	230.2	270.9	233.7	258.9	197.0	217.0	179.7	259.6	255.9	212.7	283.5	278.7	333.1	306.4	243.1	315.4	338.4	422.8	
Seed, residual	26.6	18.8	47.0	35.7	63.8	33.0	-6.7	33.9	12.8	19.6	29.3	12.1	76.5	5.3	35.5	46.9	77.0	63.2	79.8	70.2	
TOTAL	605.1	515.9	553.6	588.5	617.6	609.2	476.6	555.2	493.9	602.3	620.4	552.0	731.8	643.0	769.3	796.5	728.7	786.7	836.1	939.6	
March 1 stocks	1,345.8	955.8	1,061.1	1,371.3	1,339.0	1,146.1	890.2	1,055.5	1,190.1	1,177.3	1,215.6	1,021.6	1,370.2	1,190.4	1,055.8	1,202.9	1,457.3	1,396.0	1,403.9	1,336.0	
Crush	260.1	240.0	258.2	262.3	297.2	308.3	270.1	290.7	295.5	304.0	325.4	320.4	361.7	334.0	355.7	404.9	396.4	373.9	405.4	429.6	
Export	216.2	204.2	153.4	226.4	159.3	185.0	135.5	153.2	146.9	148.2	186.7	120.6	216.6	188.5	165.9	120.0	161.9	205.8	220.8	150.0	
Seed, residual	78.9	39.9	41.1	33.7	45.7	-2.5	20.1	15.7	24.2	29.4	20.1	25.3	0.0	44.9	34.3	84.4	50.4	58.9	69.5	71.5	
TOTAL	555.2	484.1	452.7	522.4	502.2	490.8	425.7	459.6	466.6	481.6	532.2	466.3	578.3	567.4	555.9	609.2	608.7	621.8	695.7	651.1	
June 1 stocks	790.6	471.7	608.4	848.9	836.8	655.3	464.5	595.9	723.5	695.7	683.4	555.3	791.9	622.8	499.9	593.7	848.6	774.4	708.2	684.9	
Crush	248.8	210.6	242.1	241.1	265.5	255.5	225.8	278.4	285.9	304.6	290.0	298.4	325.5	324.9	318.7	353.2	375.4	370.1	395.8	395.0	
Export	179.5	113.6	61.1	76.3	147.4	97.6	56.2	84.2	110.4	109.0	91.0	79.7	107.0	150.5	93.0	78.7	127.5	171.6	121.3	141.9	
Seed, residual	17.7	-28.2	-10.9	-4.9	-12.5	0.3	0.5	-5.8	-1.8	3.1	10.1	-31.9	24.6	-35.2	-43.6	-37.9	-1.3	-55.0	-56.6	-60.0	
TOTAL	446.0	296.0	292.3	312.5	400.4	352.8	282.5	356.8	394.5	416.7	391.1	346.2	457.1	439.6	368.1	393.9	501.6	486.7	460.5		
September 1 stocks	344.6	175.7	316.1	536.4	436.4	302.5	182.0	239.1	329.0	278.4	292.3	209.1	334.8	183.5	131.8	199.8	348.5	290.2	247.7	208.0	
Annual																					
Crush	1,108.0	982.7	1,030.4	1,052.8	1,178.7	1,174.5	1,057.6	1,146.4	1,186.9	1,253.7	1,278.8	1,275.6	1,405.2	1,369.4	1,435.7	1,595.1	1,589.7	1,578.8	1,650.0	1,698.9	
Export	905.2	743.0	598.1	740.1	756.9	801.7	527.0	622.9	557.1	683.9	769.5	589.0	838.0	851.2	881.7	870.4	801.0	973.8	996.0	1,063.3	
Seed, residual	87.0	79.0	92.0	85.9	107.0	95.4	88.7	100.4	94.0	103.6	130.2	85.3	152.0	110.4	123.6	160.3	204.6	166.2	168.3	171.4	
TOTAL	2,100.2	1,804.7	1,720.5	1,878.8	2,042.6	2,071.6	1,673.3	1,869.7	1,838.0	2,041.2	2,178.5	1,949.9	2,397.0	2,330.9	2,441.0	2,625.8	2,595.3	2,718.8	2,803.10	2,933.1	

Table 6. Soybean Meal Balance Sheet -- Years Beginning October 1

	1989-90	1990-91	1991-92	1992-93	1993-94	1994-95	1995-96	1996-97	1997-98	1998-99	1999-00	2000-01	2001-02	2002-03
	thousand tons													
Beginning stocks	173	318	285	230	204	150	223	212	210	218	330	293	383	240
Production	27,719	28,325	29,831	30,364	30,514	33,270	32,527	34,210	38,176	37,792	37,591	39,385	40,292	38,970
TOTAL ^a	27,982	28,688	30,183	30,687	30,788	33,483	32,825	34,524	38,443	38,109	37,970	39,729	40,818	39,450
Domestic	22,291	22,934	23,007	24,251	25,283	26,542	26,611	27,320	28,895	30,657	30,345	31,643	33,077	33,200
Exports	5,319	5,469	6,946	6,232	5,356	6,717	6,002	6,994	9,330	7,122	7,332	7,703	7,502	6,000
TOTAL	27,610	28,403	29,953	30,483	30,639	33,260	32,613	34,314	38,225	37,779	37,678	39,346	40,578	39,200
Ending stocks	318	285	230	204	150	223	212	210	218	330	293	383	240	250
Price ^b	\$186.48	\$181.38	\$189.21	\$193.75	\$192.86	\$162.55	\$235.92	\$270.90	\$185.28	\$138.55	\$167.70	\$173.60	\$167.73	\$170.00

^a Includes imports^b Bulk, Decatur, Illinois 48%

Table 7. Soybean Oil Balance Sheet -- Years Beginning October 1

	1989-90	1990-91	1991-92	1992-93	1993-94	1994-95	1995-96	1996-97	1997-98	1998-99	1999-00	2000-01	2001-02	2002-03
	million pounds													
Beginning stocks	1,715	1,305	1,786	2,239	1,555	1,103	1,137	2,015	1,520	1,382	1,520	1,995	2,877	2,360
Production	13,003	13,406	14,346	13,778	13,951	15,613	15,240	15,752	18,143	18,081	17,825	18,420	18,898	18,716
TOTAL ^a	14,740	14,728	16,132	16,027	15,574	16,733	16,472	17,821	19,723	19,546	19,427	20,488	21,821	21,141
Domestic	12,082	12,163	12,246	13,053	12,941	12,916	13,465	14,263	15,262	15,655	16,056	16,210	16,924	17,390
Exports	1,353	779	1,647	1,419	1,529	2,680	992	2,037	3,079	2,372	1,376	1,401	2,520	2,300
TOTAL	13,435	12,942	13,893	14,472	14,471	15,596	14,457	16,300	18,341	18,027	17,432	17,611	19,461	19,690
Ending stocks	1,305	1,786	2,239	1,555	1,103	1,137	2,015	1,520	1,382	1,520	1,995	2,877	2,360	1,451
Average Price ^b	22.3¢	21.0¢	19.1¢	21.4¢	27.1¢	27.6¢	24.75¢	22.5¢	25.8¢	19.9¢	15.6¢	14.2¢	16.5¢	21.8¢

^a Includes imports^b Bulk, Decatur, Illinois 44%^c Projected

Table 8. Soybean Balance Sheet -- Years Beginning September 1

	1989-90	1990-91	1991-92	1992-93	1993-94	1994-95	1995-96	1996-97	1997-98	1998-99	1999-00	2000-01	2001-02	2002-03 ^a
	million bushels													
Carryin	182	239	329	278	292	209	335	183	132	200	348	290	248	208
Production	1,924	1,926	1,987	2,190	1,870	2,515	2,174	2,380	2,689	2,741	2,654	2,758	2,891	2,730
TOTAL ^b	2,109	2,167	2,320	2,470	2,168	2,729	2,514	2,573	2,826	2,944	3,006	3,052	3,141	2,940
Crush	1,146	1,187	1,254	1,279	1,276	1,405	1,369	1,436	1,597	1,590	1,578	1,640	1,700	1,649
Export	623	557	684	770	589	838	851	882	870	805	975	1,996	1,063	930
Seed, feed,	101	94	103	129	94	151	111	123	159	201	163	169	171	165
TOTAL	1,870	1,838	2,041	2,178	1,954	2,394	2,331	2,441	2,626	2,596	2,716	2,804	2,933	2,744
Carryout	239	329	278	292	209	335	183	132	200	348	290	248	208	196
U.S. Average price	\$5.70	\$5.75	\$5.58	\$5.60	\$6.40	\$5.48	\$6.77	\$7.35	\$6.47	\$4.93	\$4.63	\$4.54	\$4.38	\$5.45

^a Projected^b Includes Imports

Table 9. Soybean Production by Country

Year	United States	Brazil ^a	Argentina ^a	Paraguay ^a	China	Other	World	All Foreign
million bushels								
1970	1,127	76	2	3	254	165	1,627	500
1971	1,176	135	3	4	290	126	1,734	558
1972	1,283	184	10	4	320	66	1,867	584
1973	1,547	289	18	7	367	64	2,292	745
1974	1,215	363	18	8	349	54	2,007	792
1975	1,547	413	26	10	367	46	2,409	862
1976	1,288	460	51	14	242	128	2,183	895
1977	1,762	350	99	12	266	154	2,643	881
1978	1,870	557	136	20	278	167	2,847	977
1979	2,261	376	132	21	274	191	3,255	994
1980	1,798	558	129	22	292	176	2,975	1,177
1981	1,989	471	152	22	342	186	3,162	1,173
1982	2,190	542	154	19	332	200	3,437	1,247
1983	1,636	571	257	20	359	213	3,056	1,420
1984	1,861	672	248	35	356	248	3,421	1,561
1985	2,099	518	268	22	386	272	3,565	1,466
1986	1,943	636	257	35	427	303	3,601	1,658
1987	1,938	662	356	40	457	359	3,812	1,874
1988	1,549	852	235	60	428	387	3,506	1,957
1989	1,924	747	395	58	376	445	3,945	2,020
1990	1,926	579	423	48	404	446	3,826	1,900
1991	1,987	709	410	48	357	435	3,946	1,959
1992	2,188	827	417	64	378	434	4,308	2,120
1993	1,871	908	456	66	563	454	4,318	2,447
1994	2,517	952	459	81	588	460	5,057	2,540
1995	2,177	887	457	88	496	487	4,591	2,415
1996	2,380	1,003	412	102	486	474	4,857	2,477
1997	2,689	1,194	717	110	551	545	5,806	3,117
1998	2,741	1,150	735	112	557	577	5,872	3,131
1999	2,654	1,257	779	107	525	527	5,875	3,221
2000	2,758	1,433	1,021	129	566	527	6,434	3,676
2001	2,891	1,598	1,102	114	566	501	6,772	3,881
2002	2,730	1,800	1,231	136	603	514	7,014	4,284

^a Harvested in the spring of the following year.

Table 10. South American Soybean Area, Yield and, Production, 1988 to Date

Year	Brazil			Argentina			Paraguay		
	Area mil. ha.	Yield t/ha.	Production mil.t	Area mil. ha.	Yield t/ha.	Production mil. t.	Area mil. ha.	Yield t/ha.	Production mil. t.
1988-89	12.15	1.94	23.60	4.00	1.63	6.50	0.85	1.90	1.62
1989-90	11.55	1.76	20.34	4.95	2.17	10.75	0.98	1.61	1.58
1990-91	9.75	1.62	15.75	4.75	2.42	11.50	0.89	1.46	1.30
1991-92	9.70	1.99	19.30	4.80	2.32	11.15	0.90	1.44	1.30
1992-93	10.63	2.12	22.50	4.90	2.32	11.35	0.98	1.79	1.75
1993-94	11.44	2.16	24.70	5.40	2.30	12.40	1.05	1.71	1.80
1994-95	11.68	2.22	25.90	5.70	2.19	12.50	1.10	2.00	2.20
1995-96	10.95	2.21	24.15	5.98	2.08	12.43	1.10	2.18	2.40
1996-97	11.80	2.27	26.80	6.26	1.81	11.20	1.20	2.31	2.77
1997-98	13.00	2.50	32.50	6.95	2.80	19.50	1.20	2.49	2.99
1998-99	12.90	2.43	31.30	8.17	2.45	20.00	1.20	2.54	3.05
1999-00	13.60	2.51	34.20	8.58	2.47	21.20	1.15	2.52	2.90
2000-01	13.93	2.80	39.00	10.40	2.67	27.80	1.35	2.61	3.52
2001-02	16.35	2.66	43.50	11.40	2.63	30.00	1.42	2.18	3.10
2002-03	18.00	2.72	49.00	12.50	2.68	33.50	1.45	2.55	3.70

Source: USDA, FAS

Table 11. World Oilseed and Soybean Production

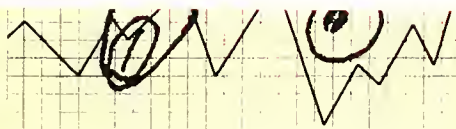
Year	Major Oilseeds			Soybeans		
	United States	Ex-United States	Total	United States	Ex-United States	Total
	million metric tons					
1977-78	56.5	93.7	150.2	47.95	23.98	71.93
1978-79	58.6	92.0	150.6	50.86	26.62	77.48
1979-80	72.4	98.1	170.5	61.72	31.79	93.51
1980-81	55.8	99.8	155.6	48.77	32.20	80.97
1981-82	64.0	105.5	169.5	54.13	31.93	86.06
1982-83	68.2	110.1	178.3	59.61	33.96	93.57
1983-84	50.4	115.1	165.5	44.52	38.64	84.16
1984-85	59.2	131.7	191.1	50.64	42.50	93.14
1985-86	65.4	130.8	196.2	57.13	39.92	97.05
1986-87	59.4	135.0	194.4	52.87	45.21	98.08
1987-88	60.6	150.0	210.6	52.75	51.06	103.81
1988-89	50.3	153.9	204.2	42.15	53.49	95.64
1989-90	59.3	153.1	212.4	52.35	55.02	107.37
1990-91	60.6	155.1	215.7	52.42	51.57	103.99
1991-92	64.3	160.0	224.3	54.07	53.31	107.38
1992-93	68.4	158.9	227.4	59.61	57.69	117.30
1993-94	59.5	168.4	227.9	50.92	66.58	117.50
1994-95	79.7	181.2	260.9	68.49	69.14	137.63
1995-96	69.1	190.6	259.7	59.24	65.72	124.96
1996-97	74.8	187.0	261.8	64.78	67.40	132.18
1997-98	83.1	203.9	287.0	73.18	84.90	158.07
1998-99	84.4	210.3	294.7	74.60	85.21	159.81
1999-00	82.3	221.1	303.4	72.22	87.68	159.90
2000-01	84.9	228.5	313.4	75.06	100.04	175.10
2001-02	89.8	233.7	323.5	78.67	105.63	184.30
2002-03	83.5	240.5	324.0	74.29	116.60	190.89

¹WASDE Oct. 2002 and earlier.

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CORN: AMPLE SUPPLIES, BUT UNCERTAINTY ABOUT 2003

JANUARY 2003

Darrel Good

2003 – No. 2

Summary

Stocks of U.S. corn on December 1, 2002 totaled 7.633 billion bushels. While inventories were 7.6 percent smaller than on the same date in 2001, they were larger than expected. The stocks figure implies that feed and residual use of corn during the first quarter of the marketing year totaled 2.04 billion bushels, 7.6 percent less than during the same quarter last year and the smallest first quarter use in five years. The apparent slow rate of domestic feed and residual use of corn, along with a very slow export pace, suggests that consumption of U.S. corn during the current marketing will be less than that of a year ago even with a sharp increase in domestic processing use.

Year ending stocks are expected to exceed 900 million bushels and U.S. producers are expected to increase corn acreage in 2003. The most uncertainty, as usual, surrounds prospects for U.S. average yields in 2003. Widespread dry conditions currently are of some concern so that spring weather becomes very important.

The average farm price averaged \$2.35 during the first quarter of the marketing year. Prices are expected to remain near that level for the next two months. More price volatility can be expected in the spring. Spring/summer weather concerns may provide the next opportunity for pricing old and new crop corn.

Corn Supplies Are Down

In the final report for the 2002 crop, the USDA estimated the 2002 U.S. corn crop at 9.008 billion bushels, only 5 million larger than the November 2002 projection (Table 1). The crop was 499 million bushels, or 5.2 percent, smaller than the 2001 crop. The January 10 USDA report contained a 207,000 acre increase in the estimate of planted acreage of corn in 2002, but a 1.228 million acre reduction in the estimate of acreage harvested for grain. Still, harvested acreage was 505,000 larger than that of 2001 (Table 2). Corn acreage harvested for silage jumped by 1.342 million from 2001 to 2002. Unharvested acreage increased from 796,000 in 2001 to 2.251 million in 2002.

The U.S. average corn yield in 2002 was estimated at 130 bushels per acre, 2.4 bushels above the November 2002 projection, but 8.2 bushels below the 2001 average (Table 3). For the major corn producing states, average yields were high in Iowa (165 bushels) and Minnesota (157 bushels); modest in Illinois (136 bushels), Wisconsin (135 bushels), and Nebraska (128 bushels); and relatively low in Ohio (88 bushels), South Dakota (95 bushels), Missouri (105 bushels), and Kansas (116 bushels).

Stocks of corn on hand at the end of the first quarter of the 2002-03 marketing year (December 1, 2002) totaled 7.633 billion

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bushels (Table 4). Stocks were 632 million bushels, or 7.6 percent, smaller than on the same date last year. Apparent consumption of U.S. corn during the first quarter of the year totaled 2.974 billion bushels, 170 million less than during the same quarter last year and at the lowest level in five years. During the quarter, domestic processing use of corn was 45 million bushels (9.2 percent) larger than during the same quarter last year. Exports were down 48 million bushels (10.7 percent), and feed and residual use was down by 167 million bushels (7.6 percent).

Year Ending Stocks – Lower, But Ample

The apparent 7.6 percent decline in feed and residual use of corn during the first quarter of the marketing year was not expected. The decline was not offset by an increase in feed and residual use of other grains. Feed and residual use of grain sorghum during the quarter was 28 million bushels (17 percent) less than during the same quarter last year and apparent feed and residual use of wheat was -85 million bushels, compared to -22 in the same quarter a year earlier. The decline in feed and residual use of grain was larger than the decline in the number of animal units fed during the quarter, implying a drop in the rate of feeding per animal. Alternatively, the 2002 corn crop may have been larger than the current projection, resulting in an underestimate of feed and residual use during the first quarter of the marketing year. Subsequent quarterly stocks reports will shed more light on the issue.

For the 2002-03 September through August grain marketing year, the USDA projects a 1.9 percent decline in the number of grain consuming animal units. Almost all of that decline is expected to come from a smaller number of cattle being fed. A modest decline in pork production and a modest increase in poultry production is projected. During that same period, a 3 percent increase in feed and residual use of grains other than corn is expected. The USDA also projects a 2.2 percent decline in the amount of grain fed per

grain feeding animal unit. As a result, the USDA projects feed and residual use of corn for the entire 2002-03 marketing year at 5.6 billion bushels, 4.7 percent less than used during the 2001-02 marketing year and the smallest use in four years. The projection implies that feed and residual use of corn during the last three quarters of the marketing year will total 3.56 billion bushels, 110 million (3 percent) less than during the same period a year ago. The projected decline during those three quarters seems a little large based on the expected reduction in the number of livestock, but it appears small based on the large decline experienced in the first quarter of the year. Improving livestock prices and lower corn prices should result in heavier slaughter weights for cattle and hogs, resulting in some increase in corn feeding rates during the remainder of the 2002-03 marketing year. The USDA projection implies that 36.4 percent of feed and residual use for the year occurred in the first quarter. That compares to 37.6 percent last year and the five year average of 37.7 percent.

For now, we are inclined to use the USDA's projection of feed use for the year, but will be eager to see the March 1 estimate of corn inventories to be revealed on March 31. That report will shed considerably more light on the apparent rate of feed and residual use of corn.

The large increase in domestic processing and seed use of corn experienced last year (97 million bushels, or 5 percent) and the large increase projected for this year (191 million bushels, or 9.3 percent) is being driven almost entirely by expanded use of corn for ethanol production. Use of corn for production of fuel alcohol grew from 627.6 million bushels in 2000-01 to 713.8 million bushels last year and is projected at 900 million bushel this year. Use for all other food and industrial purposes grew by only 10 million bushels last year and is expected to increase by only 5 million bushels this year.

Use of corn for ethanol was 27.4 percent

larger in the first quarter of the 2002-03 marketing year than during the same quarter last year. For the year, the USDA projects a 26.1 percent increase. The projection may be a little too small. We project the use of corn for all seed, food, and industrial purpose at 2.255 billion bushels, 10 million above the current USDA projection.

Exports of U.S. corn during the first quarter of the 2003-03 marketing year reached 400 million bushels, 10.7 percent less than during the same quarter last year and the smallest for the quarter in five years and the second smallest in 12 years. Through mid January 2003, cumulative shipments were only 1.6 percent behind last year's total. However, at 222 million bushels, unshipped sales were 21 percent less than outstanding sales of a year ago. Total commitments (exports plus outstanding sales) as of January 9 were up 96 percent for Canada, 53 percent to Mexico, and up 16 percent to Japan. However, commitments were down 81 percent for South Korea and 24 percent for Taiwan. The large sales to Canada reflect the poor grain harvest there, while sales to Mexico reflect the switch in imports back to corn from sorghum. The poor performance for South Korea and Taiwan reflect the influence of larger sales by China. For the year, the USDA projects Chinese corn exports at 430 million bushels, a 28 percent increase from exports of a year ago. The 2002 Chinese corn crop is estimated to be nearly 10 percent larger than the 2001 crop (Table 5), but the larger exports will contribute to a continued decline in the level of estimated stocks in China. The exports are being subsidized by the Chinese government.

It now appears that U.S. exports will be disappointing again this marketing year. The USDA projects exports at 1.85 billion bushels, 39 million less than shipped last year, the smallest exports in five years, and 200 million less than projected at the beginning of the marketing year. That projection is used here (Table 6).

Longer term, some analysts believe that the aggressive exports by China and the draw down in inventory will eventually result in the necessity for China to import corn. That development would provide a significant boost to U.S. export prospects. The logic of subsidizing exports, reducing inventory, and then importing corn is missing. While China may reduce its role as an exporter, it may be a little optimistic to expect them to deliberately reduce inventories just to import corn, even though internal transportation issues are significant.

Based on current projections, year ending stocks of U.S. corn will be near 900 million bushels, the smallest in six years, but well above our October projection of about 690 million bushels. At the projected levels, consumption during the current crop year will be about 700 million bushels larger than the 2002 crop (Table 6).

Will U.S. Corn Acreage Expand?

Planted acreage of corn in the U.S. since new agricultural policy was established in 1996 has ranged from 77.386 to 80.165 million acres. The variation in acreage has been less than in previous time periods when acreage reduction programs were in place, but acreage has responded to economic signals (Table 2). Acreage declined in 2001 as market prices at or below the loan rate discouraged production. Acreage rebounded in 2002 due to pre-planting time prices that were above the loan rate for that crop. Currently, prices offered for the 2003 crop are above the loan rate, while new crop soybean prices are below the loan rate. The price differential favors corn production in many areas of the U.S. With continued expansion of soybean production in South America, U.S. producers are expected to expand corn acreage in the U.S. in 2003 at the expense of soybean acreage.

A number of factors will influence spring planting decisions, including relative prices, weather conditions and the extent of damage

to the winter wheat crop. The 2.5 million acre increase in winter wheat seedings may limit the increase in acreage of spring planted crops. One widely followed private analyst has predicted a 2.7 million increase in planted acreage of corn in 2003. That firm also predicts a 3.35 million acre increase in combined acreage of corn, soybeans, and wheat in 2003. It is not clear how the increase would be accomplished.

Just as the increase in winter wheat acreage (6 percent) in 2002 was modest relative to the very high price of wheat, the increase in corn acreage in 2002 will likely be limited by factors other than relative price. If all major corn producing states planted at the highest level since 1996, adjusted for the increase in winter wheat seedings in 2002, corn acreage would increase by about 2.3 million acres in 2003. (calculated from Table 7). We are reluctant to project a larger increase and suspect that it will be smaller. The USDA will release a *Prospective Plantings* report on March 31. If 80.5 million acres of corn are planted in 2003, about 73.5 million would be harvested for grain, under normal weather conditions.

Even with a large increase in acreage, a small inventory of corn by harvest time 2003 means that the average corn yield in 2003 will have to be above the 130 bushel level of 2002 in order to allow a modest increase in corn consumption and maintain stocks above 700 million bushels by the end of the 2003-04 marketing year. A trend yield near 140 bushels would produce a crop near 10.3 billion bushels and allow some rebuilding of stocks.

It is too early to forecast 2003 growing conditions, but current dry conditions in some western and northern growing areas have attracted the markets attention. Given the widely variable growing conditions in 2002, and the uncertainty surrounding the current El Nino event, the market is preparing for some production uncertainty in 2003.

Price Prospects

The highest cash price of corn in the 2002-03 marketing year occurred in September 2003. The highest cash price in central Illinois in September was \$2.785 on September 11. That price occurred before harvest really got underway and was more reflective of the old crop. Since harvest began in earnest, the highest price in central Illinois was \$2.46, on September 26. The lowest price was \$2.22 on January 14, 2003. It is not uncommon for the marketing year high to occur in September, but it is rare for the low to occur in January. Over the past 30 years, the lowest cash price (central Illinois) occurred in January only one time (1980). It would not be surprising if the cash price reaches a new low, and perhaps a new high, before the marketing year is complete.

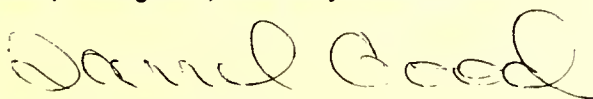
A new low price would likely be generated by prospects of a very large crop in 2003, while a new high would likely require periods of significant concerns about the 2003 crop. Prices may well remain in a fairly narrow range into March, with price extremes more likely to occur in the May through August period.

As for new crop prices, December futures have traded in a range of only \$.34 (\$2.35 to \$2.69). Two observations can be made about the historical pattern of December futures. First, the narrowest trading range over the past 30 years was \$.54 (1987 contract). Second, December futures have failed to trade to at least \$2.75 only twice in the past 30 years (1986 and 1987 contracts).

Currently, prices for both the 2002 and 2003 crops are trading near the bottom of the range experienced so far this year. Significantly lower prices are not expected over the next two months, but prospects for a major rally are also small. Based on historical price patterns, the low inventories expected at the end of this year, and the prospects for weather and crop concerns in 2003, the market may offer better pricing

opportunities in the spring/summer months. That is a long time to wait to price additional quantities of old crop corn, but patience is suggested. Old crop inventories can be placed under loan to generate cash and put options could be purchased to limit downside price risk. May 2003 put options with a strike price of \$2.30 are currently priced at about \$.05 while the \$2.40 strike price is priced at about \$.105 per bushel. Similarly, some patience in pricing additional quantities of new crop corn may be warranted. December put options are relatively expensive. The \$2.40 strike is priced at about \$.18 per bushel. One strategy might be to buy put options and sell higher priced call options to reduce the cost. This strategy establishes both a minimum and maximum price.

For the year, the USDA currently projects the average farm price to fall in a range of \$2.15 to \$2.55. A price below \$2.32 would trigger a counter-cyclical payment. The average price during the first four months of the marketing year (unweighted) was very near \$2.32.

A handwritten signature in dark ink, appearing to read "Darrel Good". The signature is fluid and cursive, with the first name "Darrel" and last name "Good" clearly distinguishable.

Issued by Darrel Good
Extension Economist
University of Illinois

Table 1. United States Corn Production Estimates

	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002
	million bushels																					
July	7,116	...	...	...	...	...	...	5,200														
August	7,735	8,315	5,237	7,668	8,266	8,316	7,231	4,479	7,348	7,850	7,418	8,762	7,423	9,214	8,122	8,695	9,276	9,592	9,561	10,369	9,266	8,886
September	7,940	8,319	4,390	7,552	8,469	8,268	7,141	4,462	7,321	8,118	7,295	8,770	7,229	9,257	7,832	8,804	9,268	9,738	9,381	10,362	9,238	8,849
October	8,081	8,315	4,259	7,498	8,603	8,220	7,139	4,553	7,449	8,022	7,479	8,938	6,962	9,602	7,541	9,012	9,312	9,743	9,467	10,192	9,430	8,970
November	8,097	8,330	4,121	7,527	8,717	8,223	7,166	4,671	7,590	7,935	7,479	9,329	6,503	10,010	7,374	9,265	9,359	9,836	9,537	10,054	9,546	9,003
January	8,201	8,397	4,204	7,656	8,865	8,253	7,064	4,921	7,527	7,933	7,474	9,479	6,344	10,103	7,374	9,293	9,366	9,761	9,437	9,968	9,507	9,008
FINAL	8,119	8,235	4,174	7,672	8,875	8,226	7,131	4,929	7,532	7,934	7,475	9,477	6,338	10,051	7,400	9,233	9,207	9,759	9,431	9,915		

Table 2. United States Corn Planting Intentions, Actual Plantings, and Acres Harvested

Year	Planted Acreage			Actual	Harvested Acreage
	February/January Intentions	March Intentions	June Intentions		
			thousand acres		
1976	80,822	82,727	84,092	84,588	71,506
1977	84,526	83,923	82,735	84,328	71,614
1978	80,944	80,237	78,717	81,675	71,930
1979	80,676	79,209	79,751	81,394	72,400
1980	83,131	82,022	83,478	84,043	72,961
1981	...	83,977	84,677	84,097	74,524
1982	...	84,735	82,129	81,857	72,719
1983	69,569 ^a	58,812	60,129	60,217	51,479
1984	...	81,766	79,940	80,617	71,897
1985	...	82,021	83,217	83,398	75,209
1986	...	78,066	76,646	76,580	68,907
1987	...	67,556	66,024	66,200	59,505
1988	...	66,926	67,519	67,717	58,250
1989	...	73,253	72,790	72,322	64,783
1990	...	74,804	74,574	74,166	66,952
1991	77,500	76,124	75,909	75,957	68,822
1992		79,007	79,335	79,311	72,077
1993		76,486	74,259	73,239	62,933
1994		78,625	78,767	78,921	72,514
1995		75,323	72,800	71,479	65,210
1996		79,920	80,355	79,229	72,644
1997		81,416	80,227	79,537	72,671
1998		80,781	80,798	80,165	72,589
1999		78,219	77,611	77,386	70,487
2000		77,881	79,579	79,551	72,440
2001		76,693	76,109	75,752	68,808
2002		79,047	78,847	79,054	(69,313)

^a February

Table 3. United States Corn Yield Estimates

	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002
	bushels per acre																											
July 1	93.0	90.5	89.4	90.1	95.8	99.3	95.9	...	...	...	...	...	...	...	87.0	...	...	...	...	...	...	...	...	...	...	...	...	...
August 1	87.4	86.7	87.3	96.1	102.1	93.0	104.3	113.9	99.9	107.9	110.6	120.4	121.4	78.5	112.8	117.7	107.8	121.3	116.0	128.4	125.6	118.7	125.3	130.0	134.7	141.9	133.9	125.2
September 1	85.1	82.8	89.7	100.3	104.6	91.8	107.1	113.9	85.1	106.3	113.3	119.7	119.9	78.5	112.4	121.7	106.1	121.4	113.1	129.0	121.1	120.2	125.2	132.0	132.2	141.8	133.5	125.4
October 1	86.2	82.7	90.8	100.7	106.4	90.8	109.0	114.2	82.9	105.5	115.1	119.2	119.9	80.2	114.4	120.3	108.8	123.8	110.3	133.8	116.6	123.0	125.8	132.0	133.5	139.6	136.3	127.2
November 1	87.2	85.5	91.5	101.2	109.2	90.8	109.2	114.2	80.5	105.9	116.6	119.3	120.3	82.3	116.6	119.0	108.6	129.3	103.1	138.4	113.7	126.5	126.4	133.3	134.5	137.7	138.0	127.6
January 1	86.2	87.4	90.8	101.2	109.4	91.0	109.9	114.8	81.6	106.6	118.0	119.3	119.4	84.6	116.2	118.5	108.6	131.4	100.7	138.6	113.5	127.1	127.0	134.4	133.8	137.1	138.2	130.0
FINAL	86.4	88.0	90.8	101.0	109.5	91.0	108.9	113.2	81.1	106.7	118.0	119.3	119.8	84.6	116.3	118.5	108.6	131.5	100.7	138.6	113.5	127.1	126.7	134.4	133.8	136.9	138.2	

Table 4. Corn Quarterly Balance Sheet

	1981-82	1982-83	1983-84	1984-85	1985-86	1986-87	1987-88	1988-89	1989-90	1990-91	1991-92	1992-93	1993-94	1994-95	1995-96	1996-97	1997-98	1998-99	1999-00	2000-01	2001-02	2002-03
	million bushels																					
September 1 stocks	1,392	2,537	3,523	1,006	1,648	4,040	4,882	4,259	1,930	1,344	1,521	1,100	2,113	850	1,558	426	883	1,308	1,787	1,718	1,899	1,596
Production	8,119	8,235	4,174	7,672	8,875	8,226	7,131	4,929	7,532	7,934	7,475	9,477	6,338	10,051	7,400	9,233	9,207	9,759	9,431	9,915	9,507	9,008
TOTAL ^a	9,511	10,772	7,699	8,680	10,534	12,267	12,016	9,191	9,464	9,282	9,016	10,584	8,472	10,910	8,974	9,672	10,099	11,085	11,232	11,639	11,416	10,619
September-November																						
Seed, food, ind	173	208	227	244	276	295	296	302	312	338	361	370	383	410	417	388	435	450	459	466	489	534
Export	519	443	493	503	415	318	396	471	582	383	421	488	435	449	660	487	380	450	535	507	448	400
Feed, residual	1,218	1,215	1,326	1,301	1,219	1,348	1,551	1,344	1,487	1,619	1,673	1,814	1,701	1,963	1,778	1,885	2,030	2,118	2,188	2,131	2,207	2,040
TOTAL	1,910	1,866	2,046	2,048	1,910	1,961	2,243	2,117	2,381	2,339	2,455	2,672	2,519	2,822	2,856	2,759	2,845	3,018	3,182	3,104	3,144	2,974
December 1 stocks	7,601	8,906	5,652	6,631	8,615	10,305	9,771	7,072	7,082	6,940	6,547	7,906	5,937	8,080	6,106	6,903	7,247	8,052	8,039	8,530	8,265	7,633
Seed, food, ind	166	192	212	236	262	281	288	301	313	330	362	365	379	410	405	400	425	434	447	465	480	534
Export	470	510	506	580	460	313	405	502	682	471	362	463	330	590	562	525	380	465	465	415	451	451
Feed, residual	1,199	1,305	1,069	1,192	1,306	1,463	1,444	1,065	1,276	1,351	1,267	1,401	1,240	1,492	1,344	1,486	1,503	1,460	1,529	1,607	1,540	1,540
TOTAL	1,835	2,007	1,787	2,008	2,028	2,057	2,137	1,868	2,271	2,152	1,991	2,229	1,949	2,493	2,311	2,411	2,308	2,359	2,441	2,488	2,471	2,471
March 1 stocks	5,766	6,899	3,865	4,623	6,587	8,248	7,636	5,204	4,812	4,789	4,561	5,678	3,996	5,592	3,800	4,494	4,940	5,698	5,602	6,043	5,795	5,795
Seed, food, ind	201	228	253	294	307	333	337	353	376	384	414	414	423	452	433	471	470	495	512	514	545	545
Export	596	475	513	475	201	496	510	592	601	454	371	411	270	588	610	433	350	497	451	455	496	496
Feed, residual	1,089	1,272	954	1,019	1,091	1,088	951	841	993	960	1,042	1,146	950	1,159	1,044	1,097	1,084	1,097	1,058	1,153	1,162	1,162
TOTAL	1,886	1,975	1,720	1,788	1,599	1,917	1,798	1,786	1,970	1,798	1,828	1,971	1,642	2,180	2,087	2,001	1,904	2,089	2,022	2,122	2,203	2,203
June 1 stocks	3,880	4,924	2,145	2,836	4,990	6,332	5,839	3,419	2,843	2,992	2,739	3,709	2,360	3,415	1,718	2,497	3,040	3,616	3,586	3,924	3,597	3,597
Seed, food, ind	193	227	238	293	307	324	331	341	369	374	396	407	429	442	373	460	475	467	496	511	540	540
Export	412	393	374	292	151	365	406	463	503	419	430	301	293	570	396	353	394	569	485	564	494	494
Feed, residual	739	781	527	603	499	761	843	685	627	679	816	891	789	846	527	809	865	795	890	951	968	968
TOTAL	1,344	1,401	1,139	1,188	957	1,450	1,580	1,489	1,499	1,472	1,642	1,599	1,511	1,858	1,295	1,617	1,734	1,831	1,869	2,026	2,002	2,002
September 1 stocks	2,537	3,523	1,006	1,648	4,040	4,882	4,259	1,930	1,344	1,521	1,100	2,113	850	1,558	426	883	1,308	1,787	1,718	1,899	1,596	1,596
Annual																						
Seed, food, ind.	733	855	930	1,067	1,152	1,233	1,251	1,298	1,370	1,425	1,533	1,556	1,613	1,715	1,628	1,714	1,805	1,846	1,913	1,957	2,054	2,054
Export	1,997	1,821	1,887	1,850	1,227	1,492	1,716	2,029	2,367	1,727	1,584	1,663	1,328	2,177	2,228	1,797	1,504	1,981	1,937	1,941	1,889	1,889
Feed, residual	4,245	4,573	3,876	4,115	4,114	4,660	4,789	3,934	4,382	4,609	4,798	5,252	4,680	5,460	4,593	5,277	5,482	5,471	5,665	5,842	5,877	5,877
TOTAL	6,975	7,249	6,693	7,032	6,494	7,385	7,757	7,260	8,120	7,761	7,916	8,471	7,622	9,352	8,548	8,789	8,791	9,298	9,524	9,740	9,820	9,820

^a Includes imports for the entire year.

Table 5. World Coarse Grain Production

	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002
	million metric tons																			
United States	137.1	237.7	274.9	252.8	215.9	149.7	221.4	230.7	218.6	277.4	186.5	284.9	210.0	265.7	260.4	271.5	263.2	273.1	261.9	245.0
Former USSR	99.0	90.5	100.0	105.9	113.7	97.5	104.8	99.4	80.4	95.3	95.6	79.2	57.4	52.0	67.9	38.0	40.5	49.5	62.3	60.8
Western Europe	86.2	103.6	101.4	94.0	93.3	99.5	102.2	97.6	104.3	93.8	96.1	86.6	88.5	103.8	109.4	105.6	102.6	107.2	105.7	105.1
China	92.7	96.2	82.3	87.0	95.8	94.2	93.5	111.7	112.3	108.4	117.8	114.3	124.5	141.3	114.7	144.2	137.2	114.0	121.9	132.9
Eastern Europe	67.1	72.8	65.5	73.9	63.9	61.3	60.2	51.4	64.7	43.2	44.5	46.9	51.4	50.0	59.0	51.0	54.7	37.0	51.8	49.3
Canada	21.0	22.0	23.9	25.5	25.5	19.7	23.5	24.8	21.8	19.6	24.0	23.4	24.1	28.2	25.1	26.6	26.8	24.0	22.6	19.6
India	34.1	31.4	25.8	26.6	23.5	31.3	34.6	32.6	25.9	36.8	31.0	30.1	29.8	34.3	30.9	31.7	30.5	31.6	34.7	27.5
Brazil	21.5	22.5	21.7	27.3	25.4	26.7	22.5	24.4	31.4	29.9	33.8	38.2	33.2	36.6	31.3	33.5	32.6	42.7	36.7	37.2
Argentina	17.4	18.9	17.4	13.0	13.1	7.3	8.3	10.8	14.5	14.1	13.3	13.9	14.1	18.9	24.7	17.8	21.5	19.6	18.5	17.2
South Africa	5.1	9.0	8.9	7.9	7.9	13.0	9.5	8.9	3.6	10.7	14.0	5.4	11.0	10.7	8.2	8.1	11.1	7.8	9.5	8.4
World	685.4	814.1	843.3	835.2	791.5	731.2	802.6	819.5	804.2	869.1	799.9	873.6	802.9	908.3	883.2	890.1	876.4	859.6	887.7	860.0
Excluding the U.S.	548.3	576.4	568.4	582.4	575.7	581.5	581.2	588.8	585.6	591.7	613.4	588.7	592.9	642.6	622.8	618.4	613.2	586.5	625.9	614.9

Source: USDA, FAS, World Crop Production, Jan. 2003 and earlier issues.

Table 6. Corn Annual Balance Sheet

	1989-90	1990-91	1991-92	1992-93	1993-94	1994-95	1995-96	1996-97	1997-98	1998-99	1999-00	2000-01	2001-02	2002-03 ^a
Carryin	1,930	1,344	1,521	1,100	2,113	850	1,558	426	883	1,308	1,787	1,718	1,899	1,596
Production	7,532	7,934	7,475	9,477	6,338	10,051	7,400	9,233	9,207	9,759	9,431	9,915	9,507	9,008
TOTAL ^b	9,464	9,282	9,016	10,584	8,472	10,910	8,974	9,672	10,099	11,085	11,232	11,659	11,416	10,619
Seed, food, industrial	1,370	1,425	1,533	1,556	1,613	1,715	1,628	1,714	1,805	1,846	1,913	1,957	2,054	2,255
Export	2,367	1,727	1,584	1,663	1,328	2,177	2,228	1,797	1,504	1,981	1,937	1,935	1,889	1,850
Feed and residual	4,382	4,609	4,798	5,252	4,680	5,460	4,693	5,277	5,482	5,471	5,664	5,848	5,877	5,600
TOTAL	8,120	7,761	7,915	8,471	7,621	9,352	8,548	8,789	8,791	9,298	9,515	9,741	9,820	9,705
Carryout	1,344	1,521	1,100	2,113	850	1,558	426	883	1,308	1,787	1,718	1,899	1,596	914
U.S. average price	\$2.36	\$2.28	\$2.37	\$2.07	\$2.50	\$2.26	\$3.24	\$2.71	\$2.45	\$1.94	\$1.82	\$1.85	\$1.97	\$2.35

^a Projected^b Includes imports

Table 7. Planted Acreage of Corn by State

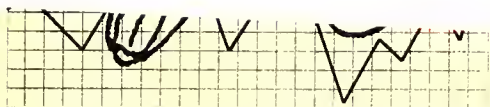
State	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002
Georgia	660	600	750	650	600	400	580	550	500	350	360	265	340
Illinois	10,600	11,200	11,200	10,590	11,600	10,200	11,000	11,200	10,600	10,800	11,200	11,000	11,200
Indiana	5,600	5,700	6,100	5,550	6,100	5,400	5,600	5,900	5,800	5,800	5,700	5,800	5,400
Iowa	12,800	12,500	13,200	12,000	13,000	11,700	12,700	12,200	12,500	12,100	12,300	11,700	12,300
Kansas	1,600	1,800	1,850	2,000	2,280	2,150	2,500	2,750	3,000	3,150	3,450	3,450	3,250
Kentucky	1,350	1,400	1,420	1,370	1,350	1,280	1,300	1,270	1,300	1,320	1,330	1,200	1,130
Michigan	2,400	2,600	2,700	2,500	2,550	2,450	2,650	2,500	2,300	2,200	2,200	2,200	2,250
Minnesota	6,700	6,600	7,200	6,300	7,000	6,700	7,500	7,000	7,300	7,100	7,200	6,800	7,200
Missouri	2,100	2,300	2,500	2,200	2,400	1,650	2,750	2,700	2,650	2,650	2,850	2,700	2,800
Nebraska	7,700	8,200	8,300	8,000	8,600	8,000	8,500	8,900	8,800	8,600	8,500	8,100	8,400
North Carolina	1,200	1,050	1,150	1,000	1,000	800	1,000	960	860	750	730	700	790
Ohio	3,700	3,700	3,800	3,500	3,700	3,300	2,900	3,800	3,550	3,450	3,550	3,400	3,200
Pennsylvania	1,380	1,400	1,380	1,370	1,400	1,380	1,450	1,550	1,550	1,500	1,550	1,500	1,450
South Dakota	3,400	3,750	3,800	3,350	3,800	2,800	4,000	3,800	3,900	3,600	4,300	3,800	4,400
Tennessee	620	620	740	660	670	640	770	700	700	630	650	630	690
Texas	1,650	1,700	1,750	2,000	2,150	2,100	2,100	2,000	2,400	1,950	2,100	1,600	2,050
Wisconsin	3,700	3,800	3,900	3,400	3,750	3,650	3,900	3,850	3,700	3,600	3,500	3,400	3,650
United States	74,171	75,951	79,325	73,323	79,158	71,245	79,487	79,537	80,165	77,386	79,551	75,752	79,054

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Stocks



Grain Price OUTLOOK

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CORN: PRICE VOLATILITY AHEAD?

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Summary

UNIVERSITY OF ILLINOIS
URBANA CHAMPAIGN

The USDA's March *Grain Stocks* and *Prospective Plantings* reports contained information generally supportive for the corn market. At 5.132 billion bushels, March 1, 2003 stocks of U.S. corn were 663 million bushels smaller than on the same date last year and nearly 70 million bushels less than generally anticipated. Producers reported intentions to plant 79.022 million acres of corn in 2003, 32,000 less than planted in 2002. The market had anticipated an increase of nearly 1.5 million acres.

Stocks of corn at the end of the 2002-03 marketing year will be at the lowest level in six years, but will be 500 million bushels above minimum pipeline supplies. A "normal" growing season in 2003 would produce a crop of about 10 billion bushels, 300 to 400 million above the current rate of consumption.

The 2002-03 season's average farm price of corn is expected to be near \$2.35. After declining steadily since September 2002, however, prices are likely to be more volatile over the next few months. The price pattern will obviously be dominated by weather and crop conditions. The window from April

through July has traditionally provided good pricing opportunities and that appears likely to be the case again this year.

Stocks At Five Year Low

The USDA's March *Grain Stocks* report revealed March 1 corn inventories of 5.132 billion bushels (Table 1). Stocks were nearly 70 million bushels below the average pre-report trade guess, 663 million bushels below the inventory of a year ago, and at the lowest level for that date since 1998. The stocks figure implies that 2.509 billion bushels of U.S. corn were used during the second quarter of the marketing year (allowing for three million bushels of imports during the quarter). Based on the USDA's projection for the year, domestic processing use of corn during the quarter is estimated at 532 million bushels, nearly 11 percent more than use during the same quarter last year. All of that increase was in corn used for ethanol production. The estimate of exports during the quarter is confused by the inconsistency in export estimates between USDA sources and the Census Bureau. We estimate that 409 million bushels of U.S. corn were exported during the quarter.

The remaining use of 1.568 billion bushels is allocated to the feed and residual category. That estimate is 28 million bushels above feed and residual use of a year ago. Apparent use during the first quarter of the year was 171 million bushels below the use during the same quarter in 2001-02. As we have pointed out before, there can be a fair amount of "noise" in the quarterly estimates of feed and residual use of corn and it can be more useful to analyze cumulative use for the first two quarters. Use during the first half of the 2002-03 marketing year is estimated at 3.607 billion bushels, 3.7 percent less than during the first half of the 2001-02 marketing year. Over the past five years, feed and residual use during the first half of the year has ranged from 63.75 to 65.61 percent of total use for the year. The average was 64.64 percent. The average of the past two years was 63.87 percent. Based on historical use patterns, and accounting for prospects for declining cattle and hog numbers for the remainder of the year, feed and residual use for the 2002-03 marketing year is projected at 5.64 billion bushels. That is 4 percent less than use of a year ago and would mean that 64 percent of total use occurred during the first half of the marketing year.

Corn exports during the first half of the 2002-03 marketing year were down sharply from exports during the first half of the 2001-02 marketing year. The extent of the decline varies according to the source of the export estimates. Through January 2003, for example, the USDA's export inspection report showed cumulative marketing year shipments of 636 million bushels (down 9 percent from a year ago) the weekly *Export Sales* report showed cumulative exports of 672

million bushels (down 4 percent from a year ago) and the Census Bureau showed exports of 690 million bushels (down 7 percent from a year ago). Based on USDA figures for the month of February, we estimate exports during the first half of the year at 805 million bushels, 10.5 percent less than during the same period last year.

Since March 1, cumulative U.S. exports have fallen further behind the level of a year ago. The largest decline in year-over-year U.S. corn exports has been to South Korea. Shipments through March 27 were reported at 5.6 million bushels, down from 38.9 million by that same time last year. Shipments to Egypt are off 47 percent, and shipments to Taiwan are down about 7 percent. Cumulative shipments are larger for Japan (11.3 percent), Canada (87.2 percent), and Mexico (12.2 percent).

As of March 27, the USDA reported unshipped export sales at 219 million bushels, 17.9 percent smaller than outstanding sales of a year ago. The decline in U.S. exports and export sales can be partially explained by the large increase in Chinese corn exports. For the 2002-03 marketing year, the USDA projects Chinese net corn exports at 468 million bushels, compared to 337 million bushels last year, and 283 million bushels two years ago. Combined with lack of growth in world corn consumption, the larger Chinese sales have kept U.S. exports under pressure. With only 22 weeks left in the marketing year, exports are in danger of falling short of the USDA projection of 1.75 billion bushels. We project exports at 1.725 billion bushels. That projection is 164 million bushels below last year's exports, 275 million below the projection of last fall, and would

be the smallest shipments in five years. There continues to be some talk of a slow down in Chinese corn exports over the next few months and the likelihood that China will dramatically reduce corn exports in the near future. The reduction would come as a result of eliminating surplus stocks and reducing corn production in favor of soybeans.

The USDA projects domestic processing use of corn during the 2002-03 marketing year at 2.265 billion bushels as ethanol production expands rapidly. High fuel prices and additional processing capacity may result in somewhat larger use, but the USDA projection is used here.

Consumption of U.S. corn for all purposes during the 2002-03 marketing year is now projected at 9.63 billion bushels (Table 2). Use at that level would result in year-ending stocks of 989 million bushels, the smallest inventory in six years. The relatively small 2002 U.S. corn harvest and resulting draw down of inventories has resulted in higher corn prices. Through the first seven months of the 2002-03 marketing year, the estimated weighted average U.S. farm price of corn was near \$2.34. That estimate is based on the average prices reported by USDA through February, the mid-month price in March, and the average monthly marketing weights of the past five years. On average over the previous five years, producers have delivered 68 percent of the crop to market during the September through March period.

Smaller inventories of corn in the rest of the world are also expected. The USDA projects that inventories of corn outside of the U.S. will decline from about 3.6 billion bushels at the beginning of the 2002-03 marketing year to about 3.2 billion by the

end of the year. Most of the decline is expected to occur in China, the only other country that holds large corn inventories. The dwindling level of stocks puts additional importance on the magnitude of U.S. and world production in 2003.

U.S. Crop Prospects

The USDA's March *Prospective Plantings* report indicated that U.S. producers intend to plant 79.022 million acres to corn in 2003 (Table 3). Intentions are very near actual plantings of a year ago and well below the average pre-report trade guess of about 80.5 million acres. Some regional shift in corn acreage was revealed in the report, however. More corn acreage is expected in the eastern corn belt states of Illinois, Indiana, Kentucky, and Ohio, while fewer acres are planned for the western states of Kansas and Nebraska (Table 4). A large reduction is expected in Texas, while northern states show a more mixed picture. Additional acreage is planned in Minnesota, but fewer acres are expected in South Dakota and Wisconsin.

The trade seemed to be almost unanimous in the expectation of more corn acreage in 2003 due to the advantage offered by 2003 corn prices over 2003 soybean prices. Some even argued that the higher loan rate for corn and the lower loan rate for soybeans put in place for the 2002 and 2003 crops gave an economic advantage to corn, when in fact the change merely removed the advantage for soybeans. The reduction in soybean acres planned for 2003 (576,000) is much less than generally expected by the trade. In addition, the publicized pre-report average trade guesses reflected an expected increase of 2.275 million acres

planted to major crops (corn, soybeans, wheat, cotton, and sorghum). Intentions show an increase of 892,000 acres for these five crops, while intended acreage for all crops in the March report is only 266,000 larger than acreage of a year ago.

There is some potential that actual planted acreage of corn will differ from intentions, depending on price changes and planting season weather. Since the change in farm policy beginning with the 1996 crop, actual plantings exceeded intentions only in 2000. The range in the difference between March intentions and actual plantings was from a decline of 1.879 million in 1997 to an increase of 1.67 million in 2000. Last year, actual planted acreage was almost identical to March intentions (Table 3).

The difference between acreage of corn planted for all purposes and acreage harvested for grain has varied substantially in recent years. For the seven year period from 1996 through 2002, the differences ranged from 6.585 million (1996) to 9.741 million (2002). The variation tends to be related to crop conditions. More acres are harvested for silage and more acres are abandoned under drought conditions. In 2000 and 2001, for example, acreage harvested for silage was near 6.1 million and unharvested acreage varied from 800,000 to one million acres. In 2002, 7.5 million acres were harvested for silage and 2.25 million acres were not harvested. The "typical" difference between acreage planted and acreage harvested for grain is about seven million acres.

If 79 million acres of corn are planted in 2003, about 72 million should be harvested for grain with a favorable

growing season. That figure is 2.687 million larger than harvested acreage of 2002 and would be slightly above the average of the past seven years and only slightly below the typical acreage of the past seven years. The larger issue for the potential size of the 2003 U.S. corn crop is average yield. The U.S. average yield was in a remarkably narrow range, and at or above trend value, from 1998 through 2001 (Table 5). During that period, the U.S. average yield varied from 133.8 to 138.7 bushels. The four year average was about 136 bushels. The U.S. average yield in 2002 declined to 130 bushels per acre, reflecting adverse growing conditions in a number of areas, but particularly in the far eastern corn belt. Of the major corn producing states only Iowa, Michigan, Minnesota, and Wisconsin experienced higher average yields in 2002 than in 2001. The contrast is illustrated by the 165 bushel average in Iowa (record) and the 88 bushel average in Ohio.

What can be said about yield prospects for 2003? First, precipitation has been below normal in some areas for quite some time and in many areas since last fall. The U.S. Palmer Drought Index shows dry conditions persisting in a large part of the corn belt through the end of March. Included is much of Nebraska, parts of North and South Dakota, southern Iowa, northern Missouri, and northern Illinois and Indiana. Those conditions imply little subsoil moisture reserves for the 2003 growing season. Ample spring rains and/or timely growing season rainfall may be required to generate trend line yields in 2003. Second, the National Weather Service forecast for April, May and June reflect expectations of normal precipitation amounts and generally normal

temperatures over most of the U.S. corn growing areas. The exception is the outlook for above normal temperatures in parts of Iowa, Missouri, Kansas, and Nebraska.

The trend line yield for 2003 is near 140 bushels per acre. At that level, the 2003 U.S. crop might be near 10.00 billion bushels, about 450 million more than expected use during the current year. A repeat of the 2002 yield of 130 bushels might result in a crop of about 9.36 billion bushels, 270 million bushels less than the projected use during the current marketing year. At this juncture, a 2003 crop near 9.9 billion bushels might be expected, reflecting a national average yield of about 138 bushels per acre. The confidence in any yield projection at this juncture is fairly low, however. A crop of 9.9 billion bushels would be about 900 million larger than the 2002 crop and near the size of the 2000 crop.

A crop of 9.9 billion bushels would allow for a significant increase in use during the 2003-04 marketing year. An increase in each of the three major categories of use of U.S. corn is expected in 2003-04 if supplies are ample and prices at or below current levels (Table 2). The largest increase might be in exports if Chinese competition is reduced as expected. Stocks of U.S. corn will likely remain at relatively low levels through the 2003-04 marketing year.

Price Prospects

The monthly average price of corn in the U.S. and in Illinois for 2002-03 marketing year are as follows:

Month	U.S. Average	Illinois Average
	\$ /bu	
Sept. 2002	\$2.47	\$2.50
Oct.	2.34	2.36
Nov.	2.27	2.33
Dec.	2.32	2.37
Jan. 2003	2.33	2.37
Feb.	2.34	2.35
March ¹	2.30	2.35
¹ mid-month		

The weighted average price through the first seven months of the marketing year was near \$2.34 in the U.S. and near \$2.38 in Illinois. Prior to the March reports, the midpoint of the USDA forecast of the average U.S. farm price for the 2002-03 marketing year was \$2.30.

The highest average daily cash price in central Illinois since September 1, 2002 was \$2.785, occurring on September 11, 2002, just before the 2002 harvest got underway. The lowest cash price of \$2.22 occurred on January 14, 2003. The current price is near \$2.37. Two observations can be made about the price pattern to date. First, the range from high to low is relatively narrow. The range during the 12 month post harvest period over the past 30 years has been \$.60 or less seven times. The range to date is within historical experience, but at the low end. Some expansion of the range between now and August would not be surprising. Second, the lowest post-harvest spot cash price so far this year has occurred in January. The post-

harvest low has occurred in January only once in the past 30 years (1979-80). History, then, suggests that a new low cash price between now and August would also not be surprising. The possibility of a new low does not, however, rule out the possibility of prices moving above current levels at some point. Nor does it rule out the possibility of a new high, although that seems to have a low probability without significant crop problems.

December 2003 corn futures has a contract high of \$2.69 and traded to near \$2.60 in September 2002. The contract low of \$2.35 was established on March 2, 2003. Again, two observations can be made about the price pattern to date. First, the range from high to low (\$.34) is extremely narrow. The smallest range for the 1973 through 2002 contracts was \$.54 (1987). It would not be surprising to see the trading range of the 2003 contract expand prior to expiration in mid-December. Second, the contract high of \$2.69 is relatively low. Since 1973, December futures have failed to trade to at least \$2.75 only twice (1986 and 1987). It would not be surprising to see a new contract high for the December 2003 contract.

The conclusion is that large swings in prices over the next five months might be expected. This is often the period of time that offers good opportunities for pricing the remaining old crop inventories and to price a portion of expected production. Now is the time to identify price targets and/or strategies for pricing remaining inventory and a significant portion of the new crop. These strategies might involve a portfolio approach of averaging sales over the April-July period for a percentage of the crop, following a scale-up strategy for a percentage of the crop, and timing sales based on price targets for another portion of the crop.

A handwritten signature in dark ink, reading "Darrel Good". The signature is fluid and cursive, with the first name "Darrel" and last name "Good" clearly distinguishable.

Issued by Darrel Good
Extension Economist
University of Illinois

Table 1. Com Quarterly Balance Sheet

	1981-82	1982-83	1983-84	1984-85	1985-86	1986-87	1987-88	1988-89	1989-90	1990-91	1991-92	1992-93	1993-94	1994-95	1995-96	1996-97	1997-98	1998-99	1999-00	2000-01	2001-02	2002-03
	million bushels																					
September 1 stocks	1,392	2,537	3,523	1,006	1,648	4,040	4,882	4,259	1,930	1,344	1,521	1,100	2,113	850	1,558	426	883	1,308	1,787	1,718	1,899	1,596
Production	8,119	8,235	4,174	7,672	8,875	8,226	7,131	4,929	7,532	7,934	7,475	9,477	6,338	10,051	7,400	9,233	9,207	9,759	9,431	9,915	9,507	9,008
TOTAL ^a	9,511	10,772	7,699	8,680	10,534	12,267	12,016	9,191	9,464	9,282	9,016	10,584	8,472	10,910	8,974	9,672	10,099	11,085	11,232	11,639	11,416	10,619
September-November																						
Seed, food, ind.	173	208	227	244	276	295	296	302	312	338	361	370	383	410	417	388	435	450	459	466	489	534
Export	519	443	493	503	415	318	396	471	582	383	421	488	435	449	660	487	380	450	535	507	448	396
Feed, residual	1,218	1,215	1,326	1,301	1,219	1,348	1,551	1,344	1,487	1,619	1,673	1,814	1,701	1,963	1,778	1,885	2,030	2,118	2,188	2,131	2,207	2,039
TOTAL	1,910	1,866	2,046	2,048	1,910	1,961	2,243	2,117	2,381	2,339	2,455	2,672	2,519	2,822	2,856	2,759	2,845	3,018	3,182	3,104	3,144	2,969
December 1 stocks	7,601	8,906	5,652	6,631	8,615	10,305	9,771	7,072	7,082	6,940	6,547	7,906	5,937	8,080	6,106	6,903	7,247	8,052	8,039	8,530	8,265	7,638
Seed, food, ind.	166	192	212	236	262	281	288	301	313	330	362	365	379	410	405	400	425	434	447	465	480	532
Export	470	510	506	580	460	313	405	502	682	471	362	463	330	590	380	525	380	465	465	415	451	409
Feed, residual	1,199	1,305	1,069	1,192	1,306	1,463	1,444	1,065	1,276	1,351	1,267	1,401	1,240	1,492	1,344	1,486	1,503	1,460	1,529	1,607	1,540	1,568
TOTAL	1,835	2,007	1,787	2,008	2,028	2,057	2,137	1,868	2,271	2,152	1,991	2,229	1,949	2,493	2,311	2,411	2,308	2,359	2,441	2,488	2,471	2,509
March 1 stocks	5,766	6,899	3,865	4,623	6,587	8,248	7,636	5,204	4,812	4,789	4,561	5,678	3,996	5,592	3,800	4,494	4,940	5,698	5,602	6,043	5,795	5,132
Seed, food, ind.	201	228	253	294	307	333	337	353	376	384	414	414	423	452	433	471	470	495	512	514	545	
Export	596	475	513	475	201	496	510	592	601	454	371	411	270	568	610	433	350	497	451	455	496	
Feed, residual	1,089	1,272	954	1,019	1,091	1,088	951	841	993	960	1,042	1,146	950	1,159	1,044	1,097	1,084	1,097	1,058	1,153	1,162	
TOTAL	1,886	1,975	1,720	1,788	1,599	1,917	1,798	1,786	1,970	1,798	1,828	1,971	1,642	2,180	2,087	2,001	1,904	2,089	2,022	2,122	2,203	
June 1 stocks	3,880	4,924	2,145	2,836	4,990	6,332	5,839	3,419	2,843	2,992	2,739	3,709	2,360	3,415	1,718	2,497	3,040	3,616	3,586	3,924	3,597	
Seed, food, ind.	193	227	238	293	307	324	331	341	369	374	396	407	429	442	373	460	475	467	496	511	540	
Export	412	393	374	292	151	365	406	463	503	419	430	301	293	570	396	353	394	569	486	564	494	
Feed, residual	739	781	527	603	499	761	843	685	627	679	816	891	789	846	527	809	865	795	890	951	968	
TOTAL	1,344	1,401	1,139	1,188	957	1,450	1,580	1,489	1,499	1,472	1,642	1,599	1,511	1,858	1,295	1,617	1,734	1,831	1,869	2,026	2,002	
September 1 stocks	2,537	3,523	1,006	1,648	4,040	4,882	4,259	1,930	1,344	1,521	1,100	2,113	850	1,558	426	883	1,308	1,787	1,718	1,899	1,596	
Annual																						
Seed, food, ind.	733	855	930	1,067	1,152	1,233	1,251	1,298	1,370	1,425	1,533	1,556	1,613	1,715	1,628	1,714	1,805	1,846	1,913	1,957	2,054	
Export	1,997	1,821	1,887	1,850	1,227	1,492	1,716	2,029	2,367	1,727	1,584	1,663	1,328	2,177	2,228	1,797	1,504	1,981	1,937	1,941	1,889	
Feed, residual	4,245	4,573	3,876	4,115	4,114	4,660	4,789	3,934	4,382	4,609	4,798	5,252	4,680	5,460	4,693	5,277	5,482	5,471	5,665	5,842	5,877	
TOTAL	6,975	7,249	6,693	7,032	6,494	7,385	7,757	7,260	8,120	7,761	7,916	8,471	7,622	9,352	8,548	8,789	8,791	9,298	9,524	9,740	9,820	

^a Includes imports for the entire year.

Table 2. Com Annual Balance Sheet

	1989-90	1990-91	1991-92	1992-93	1993-94	1994-95	1995-96	1996-97	1997-98	1998-99	1999-00	2000-01	2001-02	2002-03	2003-04 ^a
	million bushels														
Carryin	1,930	1,344	1,521	1,100	2,113	850	1,558	426	883	1,308	1,787	1,718	1,899	1,596	989
Production	<u>7,532</u>	<u>7,934</u>	<u>7,475</u>	<u>9,477</u>	<u>6,338</u>	<u>10,051</u>	<u>7,400</u>	<u>9,233</u>	<u>9,207</u>	<u>9,759</u>	<u>9,431</u>	<u>9,915</u>	<u>9,507</u>	<u>9,008</u>	<u>9,900</u>
TOTAL ^b	9,464	9,282	9,016	10,584	8,472	10,910	8,974	9,672	10,099	11,085	11,232	11,659	11,416	10,619	10,899
Seed, food, industrial	1,370	1,425	1,533	1,556	1,613	1,715	1,628	1,714	1,805	1,846	1,913	1,957	2,054	2,265	2,350
Export	2,367	1,727	1,584	1,663	1,328	2,177	2,228	1,797	1,504	1,981	1,937	1,935	1,889	1,725	1,900
Feed and residual	<u>4,382</u>	<u>4,609</u>	<u>4,798</u>	<u>5,252</u>	<u>4,680</u>	<u>5,460</u>	<u>4,693</u>	<u>5,277</u>	<u>5,482</u>	<u>5,471</u>	<u>5,664</u>	<u>5,848</u>	<u>5,877</u>	<u>5,640</u>	<u>5,700</u>
TOTAL	8,120	7,761	7,915	8,471	7,621	9,352	8,548	8,789	8,791	9,298	9,515	9,741	9,820	9,630	9,950
Carryout	1,344	1,521	1,100	2,113	850	1,558	426	883	1,308	1,787	1,718	1,899	1,596	989	949
U.S. average price	\$2.36	\$2.28	\$2.37	\$2.07	\$2.50	\$2.26	\$3.24	\$2.71	\$2.45	\$1.94	\$1.82	\$1.85	\$1.97	\$2.35	\$2.25

^a Projected^b Includes imports

Table 3. United States Corn Planting Intentions, Actual Plantings, and Acres Harvested

Year	Planted Acreage			Actual	Harvested Acreage
	February/January Intentions	March Intentions	June Intentions		
			thousand acres		
1976	80,822	82,727	84,092	84,588	71,506
1977	84,526	83,923	82,735	84,328	71,614
1978	80,944	80,237	78,717	81,675	71,930
1979	80,676	79,209	79,751	81,394	72,400
1980	83,131	82,022	83,478	84,043	72,961
1981	...	83,977	84,677	84,097	74,524
1982	...	84,735	82,129	81,857	72,719
1983	69,569 ^a	58,812	60,129	60,217	51,479
1984	...	81,766	79,940	80,617	71,897
1985	...	82,021	83,217	83,398	75,209
1986	...	78,066	76,646	76,580	68,907
1987	...	67,556	66,024	66,200	59,505
1988	...	66,926	67,519	67,717	58,250
1989	...	73,253	72,790	72,322	64,783
1990	...	74,804	74,574	74,166	66,952
1991	77,500	76,124	75,909	75,957	68,822
1992		79,007	79,335	79,311	72,077
1993		76,486	74,259	73,239	62,933
1994		78,625	78,767	78,921	72,514
1995		75,323	72,800	71,479	65,210
1996		79,920	80,355	79,229	72,644
1997		81,416	80,227	79,537	72,671
1998		80,781	80,798	80,165	72,589
1999		78,219	77,611	77,386	70,487
2000		77,881	79,579	79,551	72,440
2001		76,693	76,109	75,752	68,808
2002		79,047	78,847	79,054	69,313
2003		79,022			

^a February

Table 4. Planted Acreage of Corn by State

State	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003 ^a
						thousand acres								
Georgia	660	600	750	650	600	400	580	550	500	350	360	265	340	370
Illinois	10,600	11,200	11,200	10,590	11,600	10,200	11,000	11,200	10,600	10,800	11,200	11,000	11,200	11,300
Indiana	5,600	5,700	6,100	5,550	6,100	5,400	5,600	5,900	5,800	5,800	5,700	5,800	5,400	5,700
Iowa	12,800	12,500	13,200	12,000	13,000	11,700	12,700	12,200	12,500	12,100	12,300	11,700	12,300	12,300
Kansas	1,600	1,800	1,850	2,000	2,280	2,150	2,500	2,750	3,000	3,150	3,450	3,450	3,250	3,000
Kentucky	1,350	1,400	1,420	1,370	1,350	1,280	1,300	1,270	1,300	1,320	1,330	1,200	1,130	1,250
Michigan	2,400	2,600	2,700	2,500	2,550	2,450	2,650	2,500	2,300	2,200	2,200	2,200	2,250	2,200
Minnesota	6,700	6,600	7,200	6,300	7,000	6,700	7,500	7,000	7,300	7,100	7,200	6,800	7,200	7,400
Missouri	2,100	2,300	2,500	2,200	2,400	1,650	2,750	2,700	2,650	2,650	2,850	2,700	2,800	2,900
Nebraska	7,700	8,200	8,300	8,000	8,600	8,000	8,500	8,900	8,800	8,600	8,500	8,100	8,400	8,200
North Carolina	1,200	1,050	1,150	1,000	1,000	800	1,000	960	860	750	730	700	790	810
Ohio	3,700	3,700	3,800	3,500	3,700	3,300	2,900	3,800	3,550	3,450	3,550	3,400	3,200	3,300
Pennsylvania	1,380	1,400	1,380	1,370	1,400	1,380	1,450	1,550	1,550	1,500	1,550	1,500	1,450	1,450
South Dakota	3,400	3,750	3,800	3,350	3,800	2,800	4,000	3,800	3,900	3,600	4,300	3,800	4,400	4,300
Tennessee	620	620	740	660	670	640	770	700	700	630	650	630	690	740
Texas	1,650	1,700	1,750	2,000	2,150	2,100	2,100	2,000	2,400	1,950	2,100	1,600	2,050	1,750
Wisconsin	3,700	3,800	3,900	3,400	3,750	3,650	3,900	3,850	3,700	3,600	3,500	3,400	3,650	3,600
United States	74,171	75,951	79,325	73,323	79,158	71,245	79,487	79,537	80,165	77,386	79,551	75,752	79,054	79,022

^a Intentions

Table 5. United States Corn Yield Estimates

	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002
July 1	93.0	90.5	89.4	90.1	95.8	99.3	95.9	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
August 1	87.4	86.7	87.3	96.1	102.1	93.0	104.3	113.9	99.9	107.9	110.8	120.4	121.4	78.5	112.8	117.7	107.8	121.3	116.0	128.4	125.6	118.7	125.3	130.0	134.7	141.9	133.9	125.2
September 1	85.1	82.8	89.7	100.3	104.6	91.8	107.1	113.9	85.1	106.3	113.3	119.7	119.9	78.5	112.4	121.7	108.1	121.4	113.1	129.0	121.1	120.2	125.2	132.0	132.2	141.8	133.5	125.4
October 1	86.2	82.7	90.8	100.7	106.4	90.8	109.0	114.2	82.9	105.5	115.1	119.2	119.9	80.2	114.4	120.3	108.8	123.8	110.3	133.8	118.8	123.0	125.8	132.0	133.5	139.6	136.3	127.2
November 1	87.2	85.5	91.5	101.2	109.2	90.8	109.2	114.2	80.5	105.9	116.6	119.3	120.3	82.3	118.6	119.0	108.6	129.3	103.1	138.4	113.7	126.5	128.4	133.3	134.5	137.7	138.0	127.6
January 1	86.2	87.4	90.8	101.2	109.4	91.0	109.9	114.8	81.6	106.6	118.0	119.3	119.4	84.8	116.2	118.5	108.8	131.4	100.7	138.6	113.5	127.1	127.0	134.4	133.8	137.1	138.2	130.0
FINAL	86.4	88.0	90.8	101.0	109.5	91.0	108.9	113.2	81.1	106.7	118.0	119.3	119.8	84.6	118.3	118.5	108.6	131.5	100.7	138.6	113.5	127.1	126.7	134.4	133.8	136.9	138.2	138.2

Table 6. United States Corn Production Estimates

	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002
July	7,116	...	...	...	...	...	...	5,200	...	...	...	...	...	...	...	...	...	...	...	...	...	...
August	7,735	8,315	5,237	7,668	8,266	8,316	7,231	4,479	7,348	7,850	7,418	8,762	7,423	9,214	8,122	8,695	9,276	9,592	9,561	10,369	9,266	8,886
September	7,940	8,319	4,390	7,552	8,469	8,268	7,141	4,462	7,321	8,118	7,295	8,770	7,229	9,257	7,832	8,804	9,268	9,738	9,381	10,362	9,238	8,849
October	8,081	8,315	4,259	7,498	8,603	8,220	7,139	4,553	7,449	8,022	7,479	8,938	8,982	9,602	7,541	9,012	9,312	9,743	9,467	10,192	9,430	8,970
November	8,097	8,330	4,121	7,527	8,717	8,223	7,166	4,671	7,590	7,935	7,479	9,329	8,503	10,010	7,374	9,265	9,359	9,836	9,537	10,054	9,546	9,003
January	8,201	8,397	4,204	7,656	8,865	8,253	7,064	4,921	7,527	7,933	7,474	9,479	8,344	10,103	7,374	9,293	9,366	9,761	9,437	9,968	9,507	9,008
FINAL	8,119	8,235	4,174	7,672	8,875	8,226	7,131	4,929	7,532	7,934	7,475	9,477	8,338	10,051	7,400	9,233	9,207	9,759	9,431	9,915	...	...

Table 7. World Coarse Grain Production

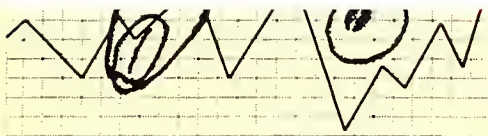
	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002
United States	137.1	237.7	274.9	252.8	215.9	149.7	221.4	230.7	218.6	277.4	186.5	284.9	210.0	265.7	260.4	271.5	263.2	273.1	261.9	245.0
Former USSR	99.0	80.5	100.0	105.9	113.7	97.5	104.8	99.4	80.4	95.3	95.6	79.2	57.4	52.0	87.9	38.0	40.5	49.5	82.3	60.5
Western Europe	86.2	103.6	101.4	94.0	93.3	99.5	102.2	97.6	104.3	93.8	96.1	88.6	88.5	103.8	109.4	105.6	102.6	107.1	106.7	106.1
China	92.7	86.2	82.3	87.0	95.8	94.2	93.5	111.7	112.3	108.4	117.8	114.3	124.5	141.3	114.7	144.2	137.2	114.0	122.3	133.0
Eastern Europe	87.1	72.8	65.5	73.9	63.9	61.3	60.2	51.4	64.7	43.2	44.5	46.9	51.4	50.0	59.0	51.0	54.7	37.0	52.1	49.5
Canada	21.0	22.0	23.9	25.5	25.5	19.7	23.5	24.8	21.8	19.6	24.0	23.4	24.1	28.2	25.1	26.6	26.8	24.0	22.6	19.6
India	34.1	31.4	25.8	26.6	23.5	31.3	34.8	32.6	25.9	36.8	31.0	30.1	29.8	34.3	30.9	31.7	30.5	31.6	34.7	25.1
Brazil	21.5	22.5	21.7	27.3	25.4	26.7	22.5	24.4	31.4	29.9	33.8	38.2	33.2	36.6	31.3	33.5	32.6	42.7	36.7	38.2
Argentina	17.4	18.9	17.4	13.0	13.1	7.3	8.3	10.8	14.5	14.1	13.3	13.9	14.1	18.9	24.7	17.8	21.5	19.6	18.5	18.5
South Africa	5.1	9.0	8.9	7.9	7.9	13.0	9.5	8.9	3.6	10.7	14.0	5.4	11.0	10.7	8.2	8.1	11.1	8.4	10.1	9.4
World	685.4	814.1	843.3	835.2	791.5	731.2	802.6	819.5	804.2	869.1	799.9	873.6	802.9	908.3	883.2	890.1	878.4	859.7	891.2	861.6
Excluding the U.S.	548.3	576.4	588.4	582.4	575.7	581.5	581.2	588.8	585.6	591.7	613.4	588.7	592.9	642.6	622.8	618.4	613.2	586.5	629.3	616.5

Source: USDA, FAS, World Crop Production, March 2003 and earlier issues.

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CORN: FOCUS ON U.S. CROP SIZE AND CHINESE EXPORTS

July 2003

Darrel Good

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Summary

The USDA's June *Grain Stocks* report confirmed that U.S. corn inventories are at the lowest level in six years. The report also confirmed the USDA's projected slower rate of domestic feed and residual use of corn, meaning that year end stocks will be adequate. The short term focus will be on the prospective size of the 2003 U.S. crop, and to a lesser extent, on the size of the Chinese crop. The USDA's June 30 *Acreage* report confirmed U.S. corn plantings of just over 79 million acres. Crop condition ratings in early July pointed to the potential for at least a trend yield in 2003 and a crop in excess of 10 billion bushels. A crop of 10 billion bushels would accommodate a 6 percent increase in consumption during the 2003-904 marketing year and still maintain year ending stocks above 1 billion bushels.

Beyond the size of the U.S. crop, the magnitude of corn exports from China in 2003-04 will be important for corn prices. Chinese exports were especially large during 2002-03, but declining stocks and a smaller crop should result in a substantial reduction in exports during the year ahead. A shift towards more soybean production at the expense of

corn could eventually result in little or no Chinese corn exports.

For the next two months, corn prices will follow the development of the corn crop. Large crop prospects could result in December futures declining to the \$2.00 area. For the 2003-04 marketing year, a 10.2 billion bushel crop would likely result in an average farm price near \$2.15 per bushel.

Small U.S. and World Corn Inventories

The USDA's June 1 *Grain Stocks* report released on June 30 estimated the corn inventory at 2.985 billion bushels (Table 1). Stocks were 612 million bushels less than on the same date last year and the lowest for that date in six years. Exports during the third quarter of the year are estimated at 395 million bushels, the smallest for that quarter in 5 years. The estimate of exports, however, is confused by the on going discrepancy between the USDA and Census Bureau estimates of exports. Through May 2003, the Census Bureau had recorded cumulative exports of 1.193 billion bushels, while the USDA estimated shipments at 1.174 billion bushels. Both estimates show exports running well behind last year's pace.

Use of corn for seed, food and industrial uses is estimated at 620 million bushels for the third quarter of the year, as increased ethanol production continues to drive use in that category to record levels. Processing use of corn through May was 12.4 percent more than use of a year ago, with all of the 190 million bushel increase attributed to ethanol production.

Feed and residual use of corn during the third quarter of the year is estimated at 1.132 billion bushels. That is only 30 million less than the record consumption of last year. Following the large decline (8 percent) in the first quarter, feed and residual use has been about equal to that of a year ago. The apparent large use during the first quarter in 2001-02 and the apparent small use this year may be influenced by errors in the estimated size of the crops.

For the year, the USDA projects corn exports at 1.6 billion bushels, 15.3 percent less than during the 2001-02 marketing year. Through July 3, with only 8.4 weeks left in the marketing year, the USDA estimates showed corn exports running 15 percent behind the pace of a year ago. Unshipped sales as of July 3 were reported at 200 million bushels compared to 233.6 million on the same date last year. Shipments and sales are on-target to reach about 1.585 billion bushels, based on USDA estimates. Accounting for the difference between USDA and Census Bureau estimates, shipments are expected to reach about 1.61 billion bushels, very close to the current USDA projection.

The USDA projects seed, food, and industrial use of corn for the current year at 2.31 billion bushels, 12.5 percent more than used last year. Use through the first

three quarters of the year is on target to reach that projection.

Feed and residual use of corn is projected at 5.65 billion bushels, nearly 4 percent less than used last year. That projection implies that use during the fourth quarter of the marketing year will total 925 million bushels, 27 million bushels (2.8 percent) less than during the same quarter last year. That figure appears reasonable given the decline in hog numbers and the likely increase in the amount of wheat fed this summer. The USA projects use for the year at 5.7 billion bushels.

It now appears that use of corn during the 2002-03 marketing year will total 9.57 billion bushels, 250 million fewer bushels than consumed last year. At 1.049 billion bushels, the projected level of year-ending stocks is 547 million bushels less than stocks at the beginning of the year and the lowest level of year ending stocks in 6 years (Table 2). However, that projection is 300 to 400 million bushels larger than the projection made at the beginning of the marketing year.

On a world-wide basis, annual corn consumption has exceeded production for three consecutive years. As a result, world inventories of corn have been reduced significantly. In two years, U.S. stocks have been reduced by 45 percent and Chinese stocks have also declined an estimated 45 percent. No other country carries large inventories of corn. The U.S. and China account for 75 to 85 percent of world stocks.

New Crop Prospects

The small 2002 U.S. corn crop was met with very weak export demand and declining domestic feed and residual use.

As a result, supplies were adequate to meet needs without extremely high prices. With a reduced level of U.S. and world inventories, however, the size of the 2003 U.S. crop will be extremely important for price patterns and price levels over the next several months.

In its June 30 Acreage report, the USDA estimated planted acreage of corn in the U.S. in 2003 at 79.066 million acres. That figure is very near the intended acreage reported in March and to actual acreage planted in 2002 (Table 3). Compared to March intentions, June acreage estimates were 100,000 acres larger in Iowa, Michigan, North Dakota, and Wisconsin; 150,000 larger in Ohio; 200,000 larger in South Dakota; and 250,000 larger in Texas. June estimates were down 100,000 acres in Kansas; down 200,000 in Illinois and Nebraska; and down 300,000 acres in Minnesota. Compared to planted acreage in 2002, the major changes in 2003 occurred in Indiana (up 300,000 acres, Ohio (up 250,000 acres), Kansas (down 350,000 acres) and Nebraska (down 400,000 acres). Only small changes occurred in Illinois and Iowa (Table 4).

In 2002, dry growing conditions resulted in more than the normal amount of corn acres harvested for silage and more abandoned acreage. The difference between acreage planted for all purposes and acreage harvested for grain was estimated at 9.741 million acres (calculated from Table 3). Prior to 2002, the last year of significant abandonment was 1993. In that year, the difference between acreage planted and harvested for grain was 10.306 million. In eight years from 1994 through 2001, the difference between planted acreage and acreage harvested for grain varied from 6.269 to 7.576 million acres. The

average was 6.832 million. For 2000 and 2001, when planted acreage was near that of 2003, the difference was 7.111 million and 6.944 million, respectively. For 2003, the USDA projects acreage harvested for grain at 71.985 million, 7.081 million less than acreage planted for all purposes. That is, harvested acreage is expected to be up 2.672 million from harvested acreage of a year ago without a change in area planted. Similarly, combined planted acreage of oats, sorghum, and barley is estimated to be essentially unchanged from acreage in 2002, but area harvested for grain is projected to be up 1.774 million. Harvested area for all feed grains, then, is expected to be 4.446 million acres (5.4 percent) more in 2003 than in 2002. With about six weeks of critical growing season still to unfold, it appears that the USDA projection of significantly fewer abandoned acres in 2003 is still on target. As of July 7, 73 percent of the corn crop, 65 percent of the sorghum crop, 76 percent of the barley crop, and 77 percent of the oats crop were rated in good or excellent condition. The ratings on the same date last year were, 53 percent, 39 percent, 57 percent and 45 percent, respectively.

For corn, the best crop conditions were reported in Iowa, Minnesota, and the Dakotas. Poor ratings were found in Indiana, Ohio, and Texas. With the stress of summer weather over the next few weeks, it may be difficult for overall crop ratings to improve much above the lofty levels of early July as ratings generally reflect appearance of the crop.

Based on crop conditions ratings in early July and a generally favorable short term weather outlook, yield prospects remain good. There is some concern about some later than normal maturity of the

crop in Illinois, Indiana, and Iowa, but those crops are progressing at about the same pace as last year. Significant problems from heat during pollination or from an early freeze are not anticipated.

With the usual caveats about the remainder of the growing season, it appears that the 2003 U.S. crop is on target for an above trend yield (and record yield) of about 142 bushels per acre. There is some discussion of the potential to be well above the long term trend in 2003. With harvested acreage of 72 million and a yield of 142 bushels, the 2003 crop would total a record 10.224 billion bushels, 173 million above the 1994 record of 10.051 billion (Table 6).

With prices at "modest" levels in the 2003-04 marketing year, consumption of U.S. corn is expected to increase over the level of use during the current year. The growth is expected to be spurred by continued growth in ethanol production and a recovery in exports. The USDA projects a 190 million bushel increase in corn used for seed, feed, and industrial purposes in the year ahead. All of that increase would be in ethanol production. The expected growth rate is still modest compared to the 256 million bushel increase experienced during the current year.

U.S. corn exports are expected to get a boost during the year ahead from a 215 million bushel (37 percent) decline in Chinese corn exports, larger imports by Mexico, increased consumption of corn outside the U.S., increased world trade, and a slightly weaker U.S. dollar. The increase in U.S. exports will likely be limited by smaller Canadian imports and modest growth in Asian demand. The USDA currently projects U.S. exports during the year ahead at 1.85 billion

bushels. Many of the factors that influence U.S. exports are subject to change so that this projection must be considered to be highly tentative. Since 1981, the final USDA export estimate for the year has been below the July projection 8 times and above the July projection 14 times. The average difference between the July projection and the final estimate was 17 percent.

Feed and residual use of corn during the year ahead, assuming modest corn prices, is expected to be near the level of the current year. Hog numbers appear to be scheduled to decline through the first half of 2004 and more sorghum will be available for feeding cattle. Corn use is projected at 5.6 billion bushels, but will be dependent upon crop size and price level.

Use for all purposes during the 2003-04 marketing year is projected at 10 billion bushels, 430 million (4.5 percent) more than the projection for the current year. Based on a crop of 10.224 billion bushels, use at that level would leave year ending stocks at 1.283 billion bushels (Table 2). From another perspective, use at 10 billion bushels would require a 2003 average yield of 138.9 bushels per acre in order to prevent a decline in stocks next year. A yield of 138.1 bushels would be required to maintain stocks above 1 billion bushels.

Corn Prices

This past year, was not a "classic" short crop year, but production was well below the level of use of the previous four years and did result in a draw down in stocks. Prices behaved in a classic short crop pattern – peaking in September just before harvest and reaching a low (to date) in July. December 2002 futures traded to a high of \$2.96. The unique

characteristic of prices, however, was the extremely narrow trading range from October 2002 through June 2003. The following table illustrates the average monthly price received by U.S. farmers and the average monthly price offered in central Illinois so far this year.

Month	U.S. Average Price Received	Central Illinois Average Price Offered
	\$/bu	
Sept. 2002	\$2.47	\$2.57
Oct.	2.34	2.41
Nov.	2.27	2.36
Dec.	2.32	2.32
Jan. 2003	2.33	2.28
Feb.	2.34	2.33
March	2.33	2.31
April	2.34	2.36
May	2.38	2.40
June		2.36

The weighted average U.S. average price received by farmers will likely be near \$2.32 for the 2002-03 marketing year. That is exactly equal to the price that would result in no counter cyclical payment under the new farm bill.

December 2003 futures traded to a high of \$2.60 in September 2002, and has a life of contract high of \$2.69. The life of contract low of \$2.15 was reached on July 11, 2003. At the \$2.20 level, December futures results in harvest bids at or below the loan rate in many areas. With prices at that level, there is no urgency in pricing additional quantities of the 2003 crop.

With a critical part of the growing season remaining, prices for the 2003 crop may have reached at least a temporary bottom. Price volatility will likely increase from mid-July through mid-August as growing season weather unfolds. A

recovery back to \$2.35, basis December futures, would be expected with some extended hot, dry weather. A move back to the spring highs between \$2.50 and \$2.55 would require some significant crop concerns. The next few weeks could offer some opportunities for additional sales if prices move above the loan rate.

The current trading range of \$.54 for December 2003 futures is very low by historic standards. The smallest trading ranges since 1973 occurred for the 1987 contract (\$.5425) and the 1991 contract (\$.55). If a 10.2 billion bushel or larger crop does materialize, the December contract may decline under \$2.00. Based on trend yield expectations, the average cash price for the year ahead may be near \$2.15 per bushel. An average price below \$2.32 would result in a counter cyclical payment.

Currently, the 2003-04 price structure is offering little incentive to store the 2003 crop. In central Illinois, for example, the harvest basis is currently the strongest in at least five years. The carry in the futures market is small – \$.07 from December 2003 to March 2004 and \$.18 from December 2003 to July 2004. Storage appears attractive only for farm stored corn under loan. The size of the crop could alter the carry in the market between now and harvest. The size of the carry should influence the delivery date of any additional cash sales and the management of short futures positions.



Issued by Darrel Good
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Table 1. Corn Quarterly Balance Sheet

	1981-82	1982-83	1983-84	1984-85	1985-86	1986-87	1987-88	1988-89	1989-90	1990-91	1991-92	1992-93	1993-94	1994-95	1995-96	1996-97	1997-98	1998-99	1999-00	2000-01	2001-02	2002-03
	million bushels																					
September 1 stocks	1,392	2,537	3,523	1,006	1,648	4,040	4,882	4,259	1,930	1,344	1,521	1,100	2,113	850	1,558	426	883	1,308	1,787	1,718	1,899	1,596
Production	8,119	8,235	4,174	7,672	8,875	8,226	7,131	4,929	7,532	7,934	7,475	9,477	6,338	10,051	7,400	9,233	9,207	9,759	9,431	9,915	9,507	9,008
TOTAL ^a	9,511	10,772	7,699	8,680	10,534	12,267	12,016	9,191	9,464	9,282	9,016	10,584	8,472	10,910	8,974	9,672	10,099	11,085	11,232	11,639	11,416	10,619
September-November																						
Seed, food, ind	173	208	227	244	276	295	296	302	312	338	361	370	383	410	417	388	435	450	459	466	489	534
Export	519	443	493	503	415	318	396	471	582	383	421	488	435	449	660	487	380	450	535	507	448	396
Feed, residual	1,218	1,215	1,326	1,301	1,219	1,348	1,551	1,344	1,487	1,619	1,673	1,814	1,701	1,963	1,778	1,885	2,030	2,118	2,188	2,131	2,207	2,040
TOTAL	1,910	1,866	2,046	2,048	1,910	1,961	2,243	2,117	2,381	2,339	2,455	2,672	2,519	2,822	2,856	2,759	2,845	3,018	3,182	3,104	3,144	2,970
December 1 stocks	7,601	8,906	5,652	6,631	8,615	10,305	9,771	7,072	7,082	6,940	6,547	7,906	5,937	8,080	6,106	6,903	7,247	8,052	8,039	8,530	8,265	7,638
Seed, food, ind	166	192	212	236	262	281	288	301	313	330	362	365	379	410	405	400	425	434	447	465	480	548
Export	470	510	506	580	460	313	405	502	682	471	362	463	330	590	562	525	380	465	465	415	451	409
Feed, residual	1,199	1,305	1,069	1,192	1,306	1,463	1,444	1,065	1,276	1,351	1,267	1,401	1,240	1,492	1,344	1,486	1,503	1,460	1,529	1,607	1,540	1,553
TOTAL	1,835	2,007	1,787	2,008	2,028	2,057	2,137	1,868	2,271	2,152	1,991	2,229	1,949	2,493	2,311	2,411	2,308	2,359	2,441	2,488	2,471	2,510
March 1 stocks	5,766	6,899	3,865	4,623	6,587	8,248	7,636	5,204	4,812	4,789	4,561	5,678	3,996	5,592	3,800	4,494	4,940	5,698	5,602	6,043	5,795	5,132
Seed, food, ind	201	228	253	294	307	333	337	353	376	384	414	414	423	452	433	471	470	495	512	514	545	620
Export	596	475	513	475	201	496	510	592	601	454	371	411	270	568	610	433	350	497	451	455	496	395
Feed, residual	1,089	1,272	954	1,019	1,091	1,088	951	841	993	960	1,042	1,146	950	1,159	1,044	1,097	1,084	1,097	1,058	1,153	1,162	1,132
TOTAL	1,886	1,975	1,720	1,788	1,599	1,917	1,798	1,786	1,970	1,798	1,828	1,971	1,642	2,180	2,087	2,001	1,904	2,089	2,022	2,122	2,203	2,147
June 1 stocks	3,880	4,924	2,145	2,836	4,990	6,332	5,839	3,419	2,843	2,992	2,739	3,709	2,360	3,415	1,718	2,497	3,040	3,616	3,586	3,924	3,597	2,985
Seed, food, ind	193	227	238	293	307	324	331	341	369	374	396	407	429	442	373	460	475	467	496	511	540	
Export	412	393	374	292	151	365	406	463	503	419	430	301	293	570	396	353	394	572	485	564	510	
Feed, residual	739	781	527	603	499	761	843	685	627	679	816	891	789	846	527	809	865	792	890	951	952	
TOTAL	1,344	1,401	1,139	1,188	957	1,450	1,580	1,489	1,499	1,472	1,642	1,599	1,511	1,858	1,295	1,617	1,734	1,831	1,871	2,026	2,002	
September 1 stocks	2,537	3,523	1,006	1,648	4,040	4,882	4,259	1,930	1,344	1,521	1,100	2,113	850	1,558	426	883	1,308	1,787	1,718	1,899	1,596	
Annual																						
Seed, food, ind	733	855	930	1,067	1,152	1,233	1,251	1,298	1,370	1,425	1,533	1,556	1,613	1,715	1,628	1,714	1,805	1,846	1,913	1,957	2,054	
Export	1,997	1,821	1,887	1,850	1,227	1,492	1,716	2,029	2,367	1,727	1,584	1,663	1,328	2,177	2,228	1,797	1,504	1,989	1,937	1,941	1,965	
Feed, residual	4,245	4,573	3,876	4,115	4,114	4,660	4,789	3,934	4,382	4,609	4,798	5,252	4,680	5,460	4,693	5,277	5,482	5,468	5,665	5,842	5,861	
TOTAL	6,975	7,249	6,693	7,032	6,494	7,385	7,757	7,260	8,120	7,761	7,916	8,471	7,622	9,352	8,548	8,789	8,791	9,298	9,515	9,740	9,820	

^a Includes imports for the entire year.

Table 2. Corn Annual Balance Sheet

	1989-90	1990-91	1991-92	1992-93	1993-94	1994-95	1995-96	1996-97	1997-98	1998-99	1999-00	2000-01	2001-02	2002-03	2003-04 ^a
	million bushels														
Carryin	1,930	1,344	1,521	1,100	2,113	850	1,558	426	883	1,308	1,787	1,718	1,899	1,596	1,049
Production	<u>7,532</u>	<u>7,934</u>	<u>7,475</u>	<u>9,477</u>	<u>6,338</u>	<u>10,051</u>	<u>7,400</u>	<u>9,233</u>	<u>9,207</u>	<u>9,759</u>	<u>9,431</u>	<u>9,915</u>	<u>9,507</u>	<u>9,008</u>	<u>10,224</u>
TOTAL ^b	9,464	9,282	9,016	10,584	8,472	10,910	8,974	9,672	10,099	11,085	11,232	11,659	11,416	10,619	11,283
Seed, food, industrial	1,370	1,425	1,533	1,556	1,613	1,715	1,628	1,714	1,805	1,846	1,913	1,957	2,054	2,310	2,500
Export	2,367	1,727	1,584	1,663	1,328	2,177	2,228	1,797	1,504	1,981	1,937	1,935	1,905	1,600	1,850
Feed and residual	<u>4,382</u>	<u>4,609</u>	<u>4,798</u>	<u>5,252</u>	<u>4,680</u>	<u>5,460</u>	<u>4,693</u>	<u>5,277</u>	<u>5,482</u>	<u>5,471</u>	<u>5,664</u>	<u>5,848</u>	<u>5,861</u>	<u>5,650</u>	<u>5,650</u>
TOTAL	8,120	7,761	7,915	8,471	7,621	9,352	8,548	8,789	8,791	9,298	9,515	9,741	9,820	9,570	10,000
Carryout	1,344	1,521	1,100	2,113	850	1,558	426	883	1,308	1,787	1,718	1,899	1,596	1,049	1,283
U.S. average price	\$2.36	\$2.28	\$2.37	\$2.07	\$2.50	\$2.26	\$3.24	\$2.71	\$2.45	\$1.94	\$1.82	\$1.85	\$1.97	\$2.32	\$2.15

^a Projected^b Includes imports

Table 3. United States Corn Planting Intentions, Actual Plantings, and Acres Harvested

Year	Planted Acreage			Actual	Harvested Acreage
	February/January Intentions	March Intentions	June Intentions		
			thousand acres		
1976	80,822	82,727	84,092	84,588	71,506
1977	84,526	83,923	82,735	84,328	71,614
1978	80,944	80,237	78,717	81,675	71,930
1979	80,676	79,209	79,751	81,394	72,400
1980	83,131	82,022	83,478	84,043	72,961
1981	...	83,977	84,677	84,097	74,524
1982	...	84,735	82,129	81,857	72,719
1983	69,569 ^a	58,812	60,129	60,217	51,479
1984	...	81,766	79,940	80,617	71,897
1985	...	82,021	83,217	83,398	75,209
1986	...	78,066	76,646	76,580	68,907
1987	...	67,556	66,024	66,200	59,505
1988	...	66,926	67,519	67,717	58,250
1989	...	73,253	72,790	72,322	64,783
1990	...	74,804	74,574	74,166	66,952
1991	77,500	76,124	75,909	75,957	68,822
1992		79,007	79,335	79,311	72,077
1993		76,486	74,259	73,239	62,933
1994		78,625	78,767	78,921	72,514
1995		75,323	72,800	71,479	65,210
1996		79,920	80,355	79,229	72,644
1997		81,416	80,227	79,537	72,671
1998		80,781	80,798	80,165	72,589
1999		78,219	77,611	77,386	70,487
2000		77,881	79,579	79,551	72,440
2001		76,693	76,109	75,752	68,808
2002		79,047	78,847	79,054	69,313
2003		79,022			(71,985)

^a February

Table 4. Planted Acreage of Corn by State

State	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003 ^a
	thousand acres													
Georgia	660	600	750	650	600	400	580	550	500	350	360	265	340	370
Illinois	10,600	11,200	11,200	10,590	11,600	10,200	11,000	11,200	10,600	10,800	11,200	11,000	11,200	11,100
Indiana	5,600	5,700	6,100	5,550	6,100	5,400	5,600	5,900	5,800	5,800	5,700	5,800	5,400	5,700
Iowa	12,800	12,500	13,200	12,000	13,000	11,700	12,700	12,200	12,500	12,100	12,300	11,700	12,300	12,400
Kansas	1,600	1,800	1,850	2,000	2,280	2,150	2,500	2,750	3,000	3,150	3,450	3,450	3,250	2,900
Kentucky	1,350	1,400	1,420	1,370	1,350	1,280	1,300	1,270	1,300	1,320	1,330	1,200	1,130	1,230
Michigan	2,400	2,600	2,700	2,500	2,550	2,450	2,650	2,500	2,300	2,200	2,200	2,200	2,250	2,300
Minnesota	6,700	6,600	7,200	6,300	7,000	6,700	7,500	7,000	7,300	7,100	7,200	6,800	7,200	7,100
Missouri	2,100	2,300	2,500	2,200	2,400	1,650	2,750	2,700	2,650	2,650	2,850	2,700	2,800	2,950
Nebraska	7,700	8,200	8,300	8,000	8,600	8,000	8,500	8,900	8,800	8,600	8,500	8,100	8,400	8,000
North Carolina	1,200	1,050	1,150	1,000	1,000	800	1,000	960	860	750	730	700	790	740
Ohio	3,700	3,700	3,800	3,500	3,700	3,300	2,900	3,800	3,550	3,450	3,550	3,400	3,200	3,450
Pennsylvania	1,380	1,400	1,380	1,370	1,400	1,380	1,450	1,550	1,550	1,500	1,550	1,500	1,450	690
South Dakota	3,400	3,750	3,800	3,350	3,800	2,800	4,000	3,800	3,900	3,600	4,300	3,800	4,400	2,000
Tennessee	620	620	740	660	670	640	770	700	700	630	650	630	690	690
Texas	1,650	1,700	1,750	2,000	2,150	2,100	2,100	2,000	2,400	1,950	2,100	1,600	2,050	2,000
Wisconsin	3,700	3,800	3,900	3,400	3,750	3,650	3,900	3,850	3,700	3,600	3,500	3,400	3,650	3,700
United States	74,171	75,951	79,325	73,323	79,158	71,245	79,487	79,537	80,165	77,386	79,551	75,752	79,054	79,066

^a Intentions

Table 5. United States Corn Yield Estimates

	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002
July 1	93.0	90.5	89.4	90.1	95.8	99.3	95.9	...	...	...	...	...	...	...	87.0	...	...	...	...	...	...	...	...	...	...	...	...	...
August 1	87.4	86.7	87.3	96.1	102.1	93.0	104.3	113.9	99.9	107.9	110.6	120.4	121.4	78.5	112.8	117.7	107.8	121.3	116.0	128.4	125.6	118.7	125.3	130.0	134.7	141.9	133.9	125.2
September 1	85.1	82.8	89.7	100.3	104.6	91.8	107.1	113.9	85.1	106.3	113.3	119.7	119.9	78.5	112.4	121.7	106.1	121.4	113.1	129.0	121.1	120.2	125.2	132.0	132.2	141.8	133.5	125.4
October 1	86.2	82.7	90.8	100.7	106.4	90.8	109.0	114.2	82.9	105.5	115.1	119.2	119.9	80.2	114.4	120.3	108.8	123.8	110.3	133.8	116.6	123.0	125.8	132.0	133.5	139.6	136.3	127.2
November 1	87.2	85.5	91.5	101.2	109.2	90.8	109.2	114.2	80.5	105.9	116.6	119.3	120.3	82.3	116.6	119.0	108.6	129.3	103.1	138.4	113.7	126.5	126.4	133.3	134.5	137.7	138.0	127.6
January 1	86.2	87.4	90.8	101.2	109.4	91.0	109.9	114.8	81.6	106.6	118.0	119.3	119.4	84.6	116.2	118.5	108.6	131.4	100.7	138.6	113.5	127.1	127.0	134.4	133.8	137.1	138.2	130.0
FINAL	86.4	88.0	90.8	101.0	109.5	91.0	108.9	113.2	81.1	106.7	118.0	119.3	119.8	84.6	116.3	118.5	108.6	131.5	100.7	138.6	113.5	127.1	126.7	134.4	133.8	136.9	138.2	130.0

bushels per acre

Table 6. United States Corn Production Estimates

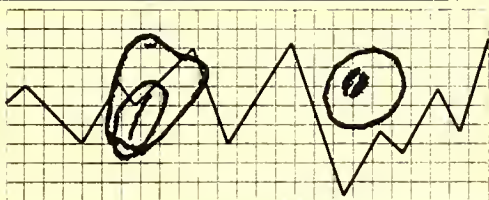
	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002
July	7,116	...	...	...	...	...	...	5,200	...	...	...	...	...	...	...	...	...	...	...	...	...	...
August	7,735	8,315	5,237	7,668	8,266	8,316	7,231	4,479	7,348	7,850	7,418	8,762	7,423	9,214	8,122	8,695	9,276	9,592	9,561	10,369	9,266	8,886
September	7,940	8,319	4,390	7,552	8,469	8,268	7,141	4,462	7,321	8,118	7,295	8,770	7,229	9,257	7,832	8,804	9,268	9,738	9,381	10,362	9,238	8,849
October	8,081	8,315	4,259	7,498	8,603	8,220	7,139	4,553	7,449	8,022	7,479	8,938	6,962	9,602	7,541	9,012	9,312	9,743	9,467	10,192	9,430	8,970
November	8,097	8,330	4,121	7,527	8,717	8,223	7,166	4,671	7,590	7,935	7,479	9,329	6,503	10,010	7,374	9,265	9,359	9,836	9,537	10,054	9,546	9,003
January	8,201	8,387	4,204	7,656	8,865	8,253	7,064	4,921	7,527	7,933	7,474	9,479	6,344	10,103	7,374	9,293	9,366	9,761	9,437	9,968	9,507	9,008
FINAL	8,119	8,235	4,174	7,672	8,875	8,226	7,131	4,929	7,532	7,934	7,475	9,477	6,338	10,051	7,400	9,233	9,207	9,759	9,431	9,915	...	...

million bushels

Table 7. World Coarse Grain Production

	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
	million metric tons																				
United States	137.1	237.7	274.9	252.8	215.9	149.7	221.4	230.7	218.6	277.4	186.5	284.9	210.0	265.7	260.4	271.5	263.2	273.1	261.9	245.0	283.6
Former USSR	99.0	90.5	100.0	105.9	113.7	97.5	104.8	99.4	80.4	95.3	95.6	79.2	57.4	52.0	67.9	38.0	40.5	49.5	62.4	60.8	52.5
Western Europe	86.2	103.6	101.4	94.0	93.3	99.5	102.2	97.6	104.3	93.8	96.1	86.6	88.5	103.8	109.4	105.6	102.6	107.1	106.7	106.1	106.7
China	92.7	96.2	82.3	87.0	95.8	94.2	93.5	111.7	112.3	108.4	117.8	114.3	124.5	141.3	114.7	144.2	137.2	114.0	122.3	129.2	125.3
Eastern Europe	67.1	72.8	65.5	73.9	63.9	61.3	60.2	51.4	64.7	43.2	44.5	46.9	51.4	50.0	59.0	51.0	54.7	37.0	51.0	50.1	48.2
Canada	21.0	22.0	23.9	25.5	25.5	19.7	23.5	24.8	21.8	19.6	24.0	23.4	24.1	28.2	25.1	26.6	26.8	24.0	22.6	19.6	28.2
India	34.1	31.4	25.8	26.6	23.5	31.3	34.6	32.6	25.9	36.8	31.0	30.1	29.8	34.3	30.9	31.7	30.5	31.6	34.7	25.1	30.5
Brazil	21.5	22.5	21.7	27.3	25.4	26.7	22.5	24.4	31.4	29.9	33.8	38.2	33.2	36.6	31.3	33.5	32.6	42.7	36.9	45.2	39.2
Argentina	17.4	18.9	17.4	13.0	13.1	7.3	8.3	10.8	14.5	14.1	13.3	13.9	14.1	18.9	24.7	17.8	21.5	19.6	18.7	19.4	20.0
South Africa	5.1	9.0	8.9	7.9	7.9	13.0	9.5	8.9	3.6	10.7	14.0	5.4	11.0	10.7	8.2	8.1	11.1	8.4	10.5	9.6	9.4
World	685.4	814.1	843.3	835.2	791.5	731.2	802.6	819.5	804.2	869.1	799.9	873.6	802.9	908.3	883.2	890.1	876.4	859.7	892.4	865.4	907.6
Excluding the U.S.	548.3	576.4	568.4	582.4	575.7	581.5	581.2	588.8	585.6	591.7	613.4	588.7	592.9	642.6	622.8	618.4	613.2	586.5	630.6	620.3	624.1

Source: USDA, FAS, World Crop Production, July 2003 and earlier issues.



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SOYBEANS: MORE ABUNDANT SUPPLIES

JULY 2003

Darrel Good

2003 – No. 6

Summary

Tracking consumption of the 2002 U.S. soybean crop has been a little confused all year due to the differences in USDA and Census Bureau export estimates. That confusion was compounded by the USDA's June 1 *Grain Stocks* report released on June 30. At 602 million bushels, stocks were 40 to 50 million larger than projected based on consumption estimates. The stocks estimate suggests that the 2002 crop was underestimated, but for now a very small estimate of "residual" use is being made for the 2002-03 marketing year.

The larger-than-expected estimate of June 1 stocks was accompanied by the June 30 *Acreage* report indicating that planted acreage in 2003 exceeded March intentions by 471,000 acres. Larger acreage and excellent crop condition ratings in mid-July point to a record larger U.S. crop in 2003. South America is also expected to expand soybean acreage in 2003-04. These developments have led to expectations that U.S. and world soybean stocks will increase during the year ahead. Prices for the 2003 crop have now declined below the loan rate in many areas. The average price for the 2003-04 marketing year is expected to be near the loan rate of \$5.00, resulting in a sizeable counter cyclical payment.

Loan deficiency payments may also be available during the harvest period.

Consumption Slows Seasonally

The USDA estimated June 1, 2003 stocks of soybeans at 602 million bushels (Table 1). That is about 80 million fewer bushels than in store a year ago and the smallest June 1 inventory in five years. However, the estimate was about 50 million bushels larger than generally expected. The figure implies that the 2002 U.S. crop was larger than the current estimate of 2.73 billion bushels and that the error was not reflected in either the December 1, 2002 or March 1, 2003 stocks estimate. For now, the stocks figure results in a very small estimate of seed and residual use of soybeans during the third quarter of the marketing year.

The domestic crush during the third quarter of the year fell below the level of a year ago, following the pattern of the first half of the year. The slower pace of domestic crush reflects smaller exports of oil and meal and a rare decline in domestic meal consumption. That decline stems from the reduced number of hogs being fed and the increased use of feed by-products from ethanol. The slower pace of crush continued in June. With only two months left in the 2002-03 soybean marketing year, it appears that the domestic crush will reach only

1.607 billion bushels, 93 million fewer bushels than processed last year (Table 2).

Based on the average yield of soybean meal per bushel crushed during the first 10 months of this year (47.1 pounds) a crush of 1.607 billion bushels will produce 37.845 million tons of soybean meal (Table 3). With beginning inventories of 240,000 tons, and imports of 240,000 tons, the supply of meal for the 2002-03 marketing year would total 38.28 million tons. The USDA projects soybean meal exports during the current year, at 6 million tons, 20 percent less than exported last year. Through May 2003, the Census Bureau indicated cumulative shipments were down 17.3 percent. As of July 10, 2003, the USDA *Export Sales* report showed cumulative shipments 21 percent less than a year ago. Shipments appear to be right on pace to reach 6 million tons for the year (Table 3).

Domestic use of soybean meal during the last quarter of the 2002-03 marketing year will be limited by availability of low priced grain, large quantities of feed byproducts, and reduced hog numbers. Use for the year is expected to reach only 32.1 million tons, 50,000 tons below the USDA projection. Total use is projected at 38.1 million tons, leaving year-ending stocks of 225,000 tons (Table 3).

If 1.607 billion bushels of soybeans are crushed during the 2002-03 marketing year, about 18.32 billion pounds of oil will be produced, reflecting a near record average oil yield of 11.4 pounds per bushel of soybeans. With beginning stocks of 2.36 billion pounds and imports of 55 million pounds, oil supply for the year totals 20.735 billion pounds (Table 4). The USDA projects a 1 percent increase in domestic oil consumption during the current year, bringing the annual total to 17.1 billion pounds. Exports of soybean oil are projected at 2.2 billion pounds, 12.7 percent less than exports during the 2001-02 marketing year. The Census Bureau estimated shipments through May at 1.713 billion pounds, only 4.4 percent less than shipped during the same period last year. Shipments, however, were

very large during June and July 2002 and those large shipments will probably not be repeated this year. Still, exports may exceed the 2.2 billion pound projection. We are using a projection of 2.25 billion pounds (Table 4). Based on these projections of domestic and export use, year ending oil stock will total 1.385 billion pounds, the lowest level in five years.

U.S. soybean exports during the first quarter of the 2002-03 marketing year were about 32 million bushels less than during the same quarter last year. However, exports exceeded the record pace of last year during the second quarter and remained well above exports of a year ago during the third quarter (Table 1). Through the first three quarters of the year, the Census Bureau estimated exports at 942.7 million bushels, 16.4 million above the total of a year ago. USDA estimates of soybean exports through May totaled 964 million bushels, 19.3 million bushels above the USDA estimate of a year ago. For the six weeks ended July 10, USDA reported exports of 45 million bushels, 20 million less than during the same period last year. Cumulative shipments then, through July 10 were about equal to those of a year ago, based on the USDA *Export Sales* report. Unshipped sales, however, totaled only 67 million bushels, compared to 81 million on the same date last year. Exports during the 2001-02 marketing year totaled 1.064 billion bushels. The pace this year projects to about 1.04 billion bushels (Table 2).

Annual seed, feed, and residual use of soybeans should be near 170 million bushels. Use has been higher in years when there was a large discrepancy between export estimates from Census and USDA (e.g. 201 million in 1989-99). For the current year, calculated residual use has been quite small, leading to the conclusion that the 2002 crop was underestimated. Feed, seed, and residual use through the first three quarters of the year totaled only 157 million bushels, compared to 225.4 million in the same period last year. USDA is currently using a projection of residual use for the year of 57 million bushels,

compared to 80 million bushels last year. That projection puts seed, feed, and residual use for the year at 147 million bushels, implying use during the fourth quarter of -10 million bushels. Use in the fourth quarter for the past three years has been near - 55 million bushels.

Using the USDA projection of feed, seed, and residual use, total use for the 2002-03 marketing year is expected to total 2.794 billion bushels. Year-ending stocks are projected at 148 million bushels, the lowest level in six years.

Prospects for 2003-04

The USDA's June 30 Acreage report estimated planted area of soybeans in 2003 at 73.653 million acres (Table 5). That estimate is 471,000 higher than intentions reported in March, but 105,000 lower than planted area in 2002. The June estimate indicates that soybean acreage in the U.S. is down for the third consecutive year, but only 613,000 less than the record acreage of 2000.

Planted acreage in 2003 is above the 2002 acreage in the western corn belt (530,000 acres), the southeast (156,000 acres), and in eastern states (49,000 acres). Acreage declined in the eastern corn belt (590,000 acres) and in the mid south (25,000 acres). The largest changes from 2002 occurred in Indiana (down 400,000), Ohio (down 350,000), Minnesota (up 400,000), and North Dakota (up 430,000). The western corn belt states account for 51 percent of the planted area in 2003. The midwest and upper plains states account for 83.7 percent of the area (Table 6).

The difference between planted and harvested acreage has varied somewhat from year to year. Since 1994, the absolute difference between planted and harvested acreage has ranged from 811,000 (1994) to 1.858 million acres (2000). On a percentage basis, unharvested acreage has ranged from 1.28 percent (1997) to 2.5 percent (2000). For 2003, the USDA projects harvested acreage at 72.681 million acres, implying unharvested

acreage of 972,000 acres, or 1.32 percent of planted acreage. At that level, harvested acreage in 2003 would be 521,000 more than harvested in 2002, even though planted area declined by 105,000 acres. Weather conditions during the final two months of the growing season will have an important influence on the magnitude of harvested acreage. We are using a projection of 72.6 million acres, implying unharvested acreage of 1.053 million, or 1.43 percent of planted area.

The U.S. average soybean yield was a record 41.4 bushels per acre in 1994. Since then the average has varied from a low of 35.3 bushels (1995) to a high of 39.6 bushels (2001). The generally higher trend in average yields of the 1980s and early 1990s, has been followed by a mostly sideways pattern since 1996. The range in average yields from 1996 though 2002 was only 3 bushels per acre (Table 7).

For 2003, the USDA will release the first objective yield and production estimate on August 12. Until then, yield expectations are mostly based on weather conditions and weekly crop progress and crop conditions as reported by the USDA. As of July 13, the USDA reported that 70 percent of the crop was in good or excellent condition. That percentage is unusually high and compares to 50 percent in good or excellent condition on the same date in 2002. The best conditions were reported in Iowa, Minnesota, Mississippi, North Dakota, South Dakota, and Wisconsin. The poorest conditions were reported in Indiana, Louisiana, and Ohio. Overall, condition ratings remained unchanged for the three weeks ended July 13. In 1994, 75 percent of the crop was rated in good or excellent condition in mid July.

While condition ratings are high and result in expectations of a high average yield, there is some concern about the slower-than-average progress of the crop. As of July 13, 27 percent of the crop was in the bloom stage, compared to 36 percent on the same date last year and the five year average of 39 percent. Only 3 percent of the crop was reported setting pods, compared to the five year average of 7 percent.

The slowest progress relative to the five year average was in Iowa, Indiana, and Ohio. Progress was above average in Arkansas, Mississippi, North Dakota, and South Dakota. In its July report of world supply and demand conditions, the USDA's World Outlook Board projected the 2003 U.S. average yield at 39.7 bushels per acre, based on the 1978 to 2002 trend yield by region.

With two months of critical growing season still to come, it is difficult to be confident of a yield forecast. Current crop conditions and the near term weather outlook, however, suggest that the crop is on track for at least a trend yield in 2003. We are using a projection of 40 bushels per acre, leading to a production forecast of 2.904 billion bushels. A crop of that size would be 13 million bushels larger than the previous record crop of 2001 (Table 8). With beginning stocks of 148 million and imports of 4 million, the supply of soybeans for the 2003-04 marketing year would be 3.056 billion bushels, 114 million larger than last year's supply and just above the record supply of 2000-01 (Table 2).

The domestic crush of soybeans during the 2003-04 marketing year will be determined by the demand for oil and meal. Generally, meal demand dictates the magnitude of crush as oil remains in surplus. Domestic meal consumption is not expected to increase sharply in 2003-04 due to a continued decline in animal numbers and increased availability of distillers dried grain from the ethanol industry. The USDA projects a 1 percent decline in animal numbers during the 2003-04 marketing year and a 2 percent increase in domestic meal consumption. The increased feeding rate implied by these projections suggests a large response to lower meal prices. We project a more modest increase, to 32.5 million tons (Table 3). Prospects for soybean meal exports are influenced by the prospective size of the South American crop, the rate of increase in world livestock production, and Chinese import policy. In its first projection for 2004, the USDA sees a 6 percent increase in south American soybean production, an 8 percent increase in

South American meal exports, no Chinese imports, and a 5 percent increase in foreign meal consumption. Under that scenario, the U.S. may do well to maintain meal exports at 6 million tons during the year ahead. Total meal use may be about 38.5 million tons during the 2003-04 marketing year. The crush required to meet that demand depends a bit on the magnitude of imports, projected by USDA at 175,000 tons, but mostly on the meal yield. A repeat of this year's average yield of 47.1 pounds would require a crush of 1.627 billion bushels. A more typical yield of 47.5 pounds would require a crush of only 1.614 billion bushels. We use a projection of 1.62 billion (Table 2).

A crush of 1.62 billion bushels would likely produce about 18.2 billion pounds of oil, depending on average yield. A continuation of a 1 percent increase in domestic use would result in consumption of about 17.27 billion pounds. U.S. soybean oil exports will be influenced by a number of factors, including the magnitude of oilseed production outside of the U.S. The USDA currently projects an 8 percent increase in world oilseed production outside of the U.S. (Table 9) including a 6 percent increase in soybean production, a 12 percent increase in cottonseed, 0.9 percent increase in sunflower seed, a 15 percent increase in rapeseed, and a 3 percent increase in palm oil production. With an expectation of a 4.5 percent increase in foreign consumption of vegetable oils, the large increases in production could limit U.S. soybean oil exports to about one billion pounds during the year ahead (Table 4). Under this scenario, year ending oil stocks would remain near the level of this year, about 1.4 billion pounds.

U.S. soybean exports during the year ahead will be influenced mostly by Chinese demand and South American production. Chinese meal consumption during the current year is projected to be 24 percent larger than consumption of a year ago. That rate of increase probably will not be maintained during the year ahead. The USDA projects a 9 percent increase. Chinese soybean oil

consumption increased by nearly 37 percent this year, requiring imports of 2.9 billion pounds of oil. Consumption is expected to expand by 8 percent during the year ahead, due partially to increased supplies of other vegetable oils. After expanding by 21 percent this year, the Chinese soybean crush is expected to expand by 9 percent during the year ahead. Allowing for a slightly larger crop and some draw down in inventories, Chinese soybean imports are expected to increase by less than 2 percent next year.

In the first projection for the 2004 crop, the USDA projects a 9 percent increase in Brazilian soybean area, a 5 percent increase in Argentine area and a 7 percent increase in area in Paraguay (Table 10). Production in these countries is projected at 3.574 billion bushels, 198 million larger than the 2003 harvest (Table 11). As a result, South American soybean exports are projected at 1.28 billion bushels during the 2003-04 marketing year compared to 1.21 billion this year.

While U.S. soybean exports are expected to remain large during 2003-04, they will likely decline from the level of the current year. Still exports could be near 1 billion bushels, pushing total consumption to 2.79 billion bushels and leaving year end stocks of 266 million bushels.

Price Prospects

The 2002 crop was not a "short" crop nor a large crop, so the price pattern has shown characteristics of both types of years. Short crop characteristics included a strong basis and inverses in the futures market. Large crop characteristics included an October low and a May high in the spot cash price. In retrospect, 2002-03 was a year of reduced production met by better than expected export demand. At this juncture, it also appears that 2002 will be followed by a large crop in 2003.

The lowest spot cash price in central Illinois, \$5.01, occurred on October 9, 2002 and the highest price, \$6.405, occurred on May 14,

2003. The range of \$1.395 is well within the experience of the past 30 years. November 2003 soybean futures has had a contract low of \$4.53 and a high of \$5.88 (June 2003). Again, the range of \$1.35 is within historical experiences, but at the low end. Monthly average prices for soybeans and products so far this year are as follows:

Month	Soybeans U.S. ¹	Soybeans Central Illinois ²	Soybean Meal ³	Soybean Oil ⁴
	----- \$/bu -----		\$/ton	¢/lb
Sept. 2002	5.39	5.61	—	--
Oct.	5.19	5.25	168.25	20.75
Nov.	5.46	5.60	163.24	23.02
Dec.	5.46	5.56	163.60	22.60
Jan. 2003	5.52	5.58	167.45	21.48
Feb.	5.55	5.65	176.76	21.17
Mar.	5.60	5.65	175.40	21.48
Apr.	5.82	5.97	182.10	22.39
May	6.07	6.24	195.40	23.17
Jun.		6.18	192.19	22.78
1) USDA, average price received; 2) average daily bid price; 3) 48%, central Illinois, 4) bulk central Illinois				

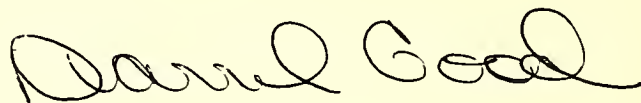
Prices have been at the highest level since 1998. The weighted average price received by U.S. farmers will be near \$5.50 for the entire marketing year, assuming relatively small quantities were marketed during the high price period of April through July (typically, about 21 percent). Based on the average price to date (\$176) and the expectation of some moderation in prices during the rest of the marketing year, the average price for the year will be near \$180. The marketing year average price of soybean oil will be near 22 cents per pound. Both averages will be the highest since the 1997-98 marketing year.

Based on current production prospects, the average price for the 2003-04 marketing year will be lower than the average for the current

year, but perhaps not as low as during the 1998-99 to 2001-02 period. At this juncture, the average is expected to be near the loan rate of \$5.00. An average below \$5.36 would result in a counter cyclical payment, to a maximum of \$.36 per bushel, on program bushels. For program bushels, the current government program offers a minimum price of \$5.80, consisting of a fixed payment of \$.44 per bushel, a loan rate of \$5.00 per bushel and a maximum counter cyclical payment of \$.36 per bushel. For bushels in excess of program bushels, the program offers a minimum price of the loan rate.

November 2003 futures are currently trading near \$5.15 and the harvest bid in most areas is below the loan rate. There seems to be little incentive to sell additional quantities of new crop with the critical part of the growing season to come. Continuation of favorable weather and confirmation of a larger 2003 crop could eventually push November futures below \$5.00.

Some will be tempted to price soybeans below the loan rate, anticipating lower prices and large loan deficiency payments (LDPs) at harvest. An alternative is to plan for low prices and to establish LDP at harvest in anticipation of a post-harvest price recovery. Both strategies carry some risk. Some consideration might be given to establishing the basis for harvest delivered soybeans in anticipation that a large crop will weaken the basis into harvest. In addition, the extremely small spreads in the futures market suggest that post-harvest ownership should be in futures rather than in storage.

A handwritten signature in dark ink, reading "Darrel Good". The signature is fluid and cursive, with the first name "Darrel" and last name "Good" clearly distinguishable.

Issued by Darrel Good
Extension Economist
University of Illinois

Table 1. Soybean Quarterly Balance Sheet

	1982-83	1983-84	1984-85	1985-86	1986-87	1987-88	1988-89	1989-90	1990-91	1991-92	1992-93	1993-94	1994-95	1995-96	1996-97	1997-98	1998-99	1999-00	2000-01	2001-02	2002-03
	million bushels																				
September 1 stocks	254.5	344.6	175.7	316.1	536.4	436.4	302.5	182.0	239.1	329.0	278.4	292.3	209.1	334.8	183.5	131.8	199.8	348.5	290.2	247.7	208.0
Production	2,190.3	1,635.8	1,860.9	2,099.1	1,942.6	1,937.7	1,548.8	1,923.8	1,925.9	1,986.6	2,190.4	1,869.7	2,514.9	2,174.3	2,380.3	2,688.8	2,741.0	2,653.8	2,757.8	2,890.6	2,729.7
TOTAL	2,444.8	1,980.4	2,036.6	2,415.2	2,479.0	2,374.1	1,855.3	2,108.8	2,167.0	2,319.6	2,470.8	2,167.0	2,730.0	2,514.1	2,572.8	2,825.6	2,943.8	3,006.3	3,052.0	3,141.3	2,941.7
September-November																					
Crush	284.2	269.6	253.7	267.5	295.8	293.4	275.4	273.0	304.1	322.0	328.2	329.6	346.2	351.4	360.6	395.8	409.3	426.7	420.9	427.5	417.4
Export	245.9	190.6	153.4	166.5	216.5	260.8	138.3	168.5	120.1	167.1	235.9	176.0	230.9	233.6	289.7	365.3	268.5	297.8	315.5	348.6	316.4
Seed, residual	-36.2	48.5	14.8	21.5	10.1	64.6	74.8	56.6	58.8	51.5	70.7	79.8	50.9	95.7	97.4	66.9	78.5	98.9	75.6	89.6	94.3
TOTAL	493.9	508.7	421.9	455.4	522.4	618.8	488.5	498.1	483.0	540.6	634.8	585.4	628.0	681.7	747.7	826.2	758.8	823.4	812.0	865.7	828.1
December 1 stocks	1,950.9	1,471.7	1,614.7	1,959.8	1,956.6	1,755.3	1,366.8	1,610.7	1,684.0	1,779.0	1,836.0	1,573.6	2,102.0	1,833.4	1,825.1	1,999.4	2,186.0	2,182.9	2,240.0	2,275.6	2,113.6
Crush	314.9	262.5	276.4	281.9	320.1	317.3	286.3	304.3	301.4	323.1	335.2	327.2	371.8	359.0	400.7	443.1	408.6	408.1	417.9	447.6	422.1
Export	263.6	234.6	230.2	270.9	233.7	258.9	197.0	217.0	179.7	259.6	255.9	212.7	283.5	278.7	333.1	306.4	243.1	315.4	338.4	422.7	429.9
Seed, residual	26.6	18.8	47.0	35.7	63.8	33.0	-6.7	33.9	12.8	19.6	29.3	12.1	76.5	5.3	35.5	46.9	77.0	63.2	79.8	69.3	60.6
TOTAL	605.1	515.9	553.6	588.5	617.6	609.2	476.6	555.2	493.9	602.3	620.4	552.0	731.8	643.0	769.3	796.5	728.7	786.7	836.1	939.6	912.6
March 1 stocks	1,345.8	955.8	1,061.1	1,371.3	1,339.0	1,146.1	890.2	1,055.5	1,190.1	1,177.3	1,215.6	1,021.6	1,370.2	1,190.4	1,055.8	1,202.9	1,457.3	1,396.0	1,403.9	1,336.0	1,201.0
Crush	260.1	240.0	258.2	262.3	297.2	308.3	270.1	290.7	295.5	304.0	325.4	320.4	361.7	334.0	355.7	404.9	396.4	373.9	405.4	429.6	400.2
Export	216.2	204.2	153.4	226.4	159.3	185.0	135.5	153.2	146.9	148.2	186.7	120.6	216.6	188.5	165.9	120.0	161.9	205.8	220.8	155.0	196.4
Seed, residual	78.9	39.9	41.1	33.7	45.7	-2.5	20.1	15.7	24.2	29.4	20.1	25.3	0.0	44.9	34.3	84.4	50.4	58.9	69.5	56.5	2.1
TOTAL	555.2	484.1	452.7	522.4	502.2	490.8	425.7	459.6	466.6	481.6	532.2	466.3	578.3	567.4	555.9	609.2	608.7	621.8	695.7	651.1	598.7
June 1 stocks	790.6	471.7	608.4	848.9	836.8	655.3	464.5	595.9	723.5	695.7	683.4	555.3	791.9	622.8	499.9	593.7	848.6	774.4	708.2	684.9	602.3
Crush	248.8	210.6	242.1	241.1	265.5	255.5	225.8	278.4	285.9	304.6	290.0	298.4	325.5	324.9	318.7	353.2	375.4	370.1	395.8	395.0	
Export	179.5	113.6	61.1	76.3	147.4	97.6	56.2	84.2	110.4	109.0	91.0	79.7	107.0	150.5	93.0	78.7	127.5	171.6	121.3	1,372.0	
Seed, residual	17.7	-28.2	-10.9	-4.9	-12.5	0.3	0.5	-5.8	-1.8	3.1	10.1	-31.9	24.6	-35.2	-43.6	-37.9	-1.3	-55.0	-56.6	-55.3	
TOTAL	446.0	296.0	292.3	312.5	400.4	352.8	282.5	356.8	394.5	416.7	391.1	346.2	457.1	439.6	368.1	393.9	501.6	486.7	460.5	476.9	
September 1 stocks	344.6	175.7	316.1	536.4	436.4	302.5	182.0	239.1	329.0	278.4	292.3	209.1	334.8	183.5	131.8	199.8	348.5	290.2	247.7	208.0	
Annual																					
Crush	1,108.0	982.7	1,030.4	1,052.8	1,178.7	1,174.5	1,057.6	1,146.4	1,186.9	1,253.7	1,278.8	1,275.6	1,405.2	1,369.4	1,435.7	1,595.1	1,589.7	1,578.8	1,650.0	1,699.7	
Export	905.2	743.0	598.1	740.1	756.9	801.7	527.0	622.9	557.1	683.9	769.5	589.0	838.0	851.2	881.7	870.4	801.0	973.8	996.0	1,063.5	
Seed, residual	87.0	79.0	92.0	85.9	107.0	95.4	88.7	100.4	94.0	103.6	130.2	85.3	152.0	110.4	123.6	160.3	204.6	166.2	168.3	170.1	
TOTAL	2,100.2	1,804.7	1,720.5	1,878.8	2,042.6	2,071.6	1,673.3	1,869.7	1,838.0	2,041.2	2,178.5	1,949.9	2,337.0	2,330.9	2,441.0	2,625.8	2,595.3	2,718.8	2,803.10	2,933.3	

Table 2. Soybean Balance Sheet -- Years Beginning September 1

	1989-90	1990-91	1991-92	1992-93	1993-94	1994-95	1995-96	1996-97	1997-98	1998-99	1999-00	2000-01	2001-02	2002-03	2003-04 ^a
	million bushels														
Carryin	182	239	329	278	292	209	335	183	132	200	348	290	248	208	148
Production	1,924	1,926	1,987	2,190	1,870	2,515	2,174	2,380	2,689	2,741	2,654	2,758	2,891	2,730	2,904
TOTAL ^b	2,109	2,167	2,320	2,470	2,168	2,729	2,514	2,573	2,826	2,944	3,006	3,052	3,141	2,942	3,056
Crush	1,146	1,187	1,254	1,279	1,276	1,405	1,369	1,436	1,597	1,590	1,578	1,640	1,700	1,607	1,620
Export	623	557	684	770	589	838	851	882	870	805	975	996	1,063	1,040	1,000
Seed, feed, residual	101	94	103	129	94	151	111	123	159	201	163	169	171	147	170
TOTAL	1,870	1,838	2,041	2,178	1,954	2,394	2,331	2,441	2,626	2,596	2,716	2,804	2,933	2,794	2,790
Carryout	239	329	278	292	209	335	183	132	200	348	290	248	208	148	266
U.S. Average price	\$5.70	\$5.75	\$5.58	\$5.60	\$6.40	\$5.48	\$6.77	\$7.35	\$6.47	\$4.93	\$4.63	\$4.54	\$4.38	\$5.50	\$5.00

^a Projected

Table 3. Soybean Meal Balance Sheet -- Years Beginning October 1

	1989-90	1990-91	1991-92	1992-93	1993-94	1994-95	1995-96	1996-97	1997-98	1998-99	1999-00	2000-01	2001-02	2002-03	2003-04
	thousand tons														
Beginning stocks	173	318	285	230	204	150	223	212	210	218	330	293	383	240	225
Production	27,719	28,325	29,831	30,364	30,514	33,270	32,527	34,210	38,176	37,792	37,591	39,385	40,292	37,845	38,325
TOTAL ^a	27,982	28,688	30,183	30,687	30,788	33,483	32,825	34,524	38,443	38,109	37,970	39,729	40,818	38,325	38,725
Domestic	22,291	22,934	23,007	24,251	25,283	26,542	26,611	27,320	28,895	30,657	30,345	31,643	33,077	32,100	32,500
Exports	5,319	5,469	6,946	6,232	5,356	6,717	6,002	6,994	9,330	7,122	7,332	7,703	7,501	6,000	6,000
TOTAL	27,610	28,403	29,953	30,483	30,639	33,260	32,613	34,314	38,225	37,779	37,677	39,346	40,578	38,100	38,500
Ending stocks	318	285	230	204	150	223	212	210	218	330	293	383	240	225	225
Price ^b	\$186.48	\$181.38	\$189.21	\$193.75	\$192.86	\$162.55	\$235.92	\$270.90	\$185.28	\$138.55	\$167.70	\$173.60	\$167.73	\$180.00	\$160.00

^a Includes imports^b Bulk, Decatur, Illinois 48%

Table 4. Soybean Oil Balance Sheet -- Years Beginning October 1

	1989-90	1990-91	1991-92	1992-93	1993-94	1994-95	1995-96	1996-97	1997-98	1998-99	1999-00	2000-01	2001-02	2002-03	2003-04
	million pounds														
Beginning stocks	1,715	1,305	1,786	2,239	1,555	1,103	1,137	2,015	1,520	1,382	1,520	1,995	2,877	2,360	1,385
Production	13,003	13,406	14,346	13,778	13,951	15,613	15,240	15,752	18,143	18,081	17,825	18,420	18,898	18,320	18,200
TOTAL ^a	14,740	14,728	16,132	16,027	15,574	16,733	16,472	17,821	19,723	19,546	19,427	20,488	21,821	20,735	19,660
Domestic	12,082	12,163	12,246	13,053	12,941	12,916	13,465	14,263	15,262	15,655	16,056	16,210	16,942	17,100	17,270
Exports	1,353	779	1,647	1,419	1,529	2,680	992	2,037	3,079	2,372	1,376	1,401	2,519	2,250	1,000
TOTAL	13,435	12,942	13,893	14,472	14,471	15,596	14,457	16,300	18,341	18,027	17,432	17,611	19,461	19,350	18,270
Ending stocks	1,305	1,786	2,239	1,555	1,103	1,137	2,015	1,520	1,382	1,520	1,995	2,877	2,360	1,385	1,390
Average Price ^b	22.3¢	21.0¢	19.1¢	21.4¢	27.1¢	27.6¢	24.75¢	22.5¢	25.8¢	19.9¢	15.6¢	14.2¢	16.5¢	22.0¢	20.0¢

^a Includes imports^b Bulk, Decatur, Illinois 44%

Table 5. Soybean Planting Intentions, Actual Plantings, and Acres Harvested

Year	January Intentions	Mar./April Intentions	June/July Intentions	Actual	Harvested Acreage
million acres					
1975	57.5	56.6	54.6	54.6	53.8
1976	50.9	49.3	49.0	50.3	49.4
1977	53.1	55.7	59.0	59.0	57.6
1978	63.9	63.7	64.0	64.7	63.3
1979	66.3	68.8	71.6	71.4	70.3
1980	71.6	71.3	70.3	69.9	67.8
1981	----	69.8	68.5	67.5	66.2
1982	69.5 ^a	---	72.2	70.9	69.4
1983	68.8 ^a	65.8 ^b	63.3	63.8	62.5
1984	65.2 ^a	---	68.0	67.8	66.1
1985	64.4 ^a	---	63.3	63.1	61.6
1986	---	62.0	61.8	60.4	58.3
1987	---	56.9	58.7	58.180	57.172
1988	---	58.0	58.5	58.840	57.373
1989	---	61.7	61.3	60.820	59.282
1990		59.42	58.05	57.795	56.283
1991	58.5	57.12	59.78	59.180	58.169
1992		57.42	59.03	59.180	58.233
1993		59.30	61.58	60.085	57.307
1994		61.12	61.78	61.620	60.809
1995		61.45	63.105	62.495	61.544
1996		62.478	63.895	64.195	63.349
1997		68.800	70.850	70.005	69.110
1998		72.000	72.720	72.025	70.441
1999		73.105	74.205	73.730	72.446
2000		74.871	74.501	74.266	72.408
2001		76.657	75.416	74.075	72.975
2002		72.966	72.993	73.758	72.160
2003		73.182	73.653		(72.600)

^a February 1^b May 1

Table 6. Planted Acres of Soybeans by Region

Region	Western Corn Belt ^a		Eastern Corn Belt ^b		Mid-South ^c		Southeast ^d		East Coast ^e		United States	
	000 acres	%	000 acres	%	000 acres	%	000 acres	%	000 acres	%	000 acres	%
1976	16,145	32.1	14,530	28.9	13,630	27.1	4,799	9.6	1,122	2.3	50,226	100.0
1979	23,370	32.7	19,620	27.5	18,470	25.9	8,360	11.7	1,591	2.2	71,411	100.0
1986	24,875	41.2	18,300	30.3	10,995	18.2	4,680	7.8	1,535	2.5	60,385	100.0
1987	24,120	41.5	18,580	31.9	10,330	17.8	3,675	6.3	1,475	2.5	58,180	100.0
1988	24,310	41.3	18,680	31.7	10,460	17.8	3,810	6.5	1,580	2.7	58,840	100.0
1989	24,790	40.8	19,020	31.3	10,750	17.7	4,460	7.3	1,800	2.9	60,820	100.0
1990	23,750	41.1	18,490	32.0	10,270	17.2	3,650	6.3	1,635	2.8	57,795	100.0
1991	26,035	44.0	19,420	32.8	8,990	15.2	3,005	5.1	1,730	2.9	59,180	100.0
1992	25,400	42.9	20,000	33.8	8,980	15.2	2,915	5.2	1,715	2.9	59,180	100.0
1993	25,300	42.1	20,410	34.0	9,690	16.1	2,915	4.9	1,770	2.9	60,085	100.0
1994	27,220	44.1	20,510	33.3	9,220	15.0	2,875	4.7	1,795	2.9	61,620	100.0
1995	28,210	45.1	21,130	33.8	9,130	14.7	2,290	3.6	1,735	2.8	62,495	100.0
1996	28,250	44.0	22,370	34.8	9,390	14.6	2,565	4.0	1,620	2.5	64,195	100.0
1997	32,450	46.4	22,610	32.3	10,390	14.8	2,777	4.0	1,778	2.5	70,005	100.0
1998	33,700	46.8	23,650	32.8	10,180	14.1	2,690	3.8	1,805	2.5	72,025	100.0
1999	35,800	48.5	24,100	32.7	9,700	13.2	2,360	3.2	1,770	2.4	73,730	100.0
2000	37,050	49.9	24,050	32.4	9,070	12.2	2,230	3.0	1,926	2.6	74,266	100.0
2001	37,700	50.9	24,650	33.3	7,685	10.4	2,135	2.9	1,905	2.5	74,075	100.0
2002	37,020	50.2	24,690	33.2	8,130	11.0	2,135	2.9	1,783	2.4	73,758	100.0
2003	37,550	51.0	24,100	32.7	7,880	10.7	2,291	3.1	1,832	2.5	73,653	100.0

^a Iowa, Kansas, Minnesota, Missouri, Nebraska, North Dakota, South Dakota^b Illinois, Indiana, Michigan, Ohio, Wisconsin^c Arkansas, Kentucky, Louisiana, Mississippi, Oklahoma, Tennessee, Texas^d Alabama, Florida, Georgia, North Carolina, South Carolina^e Delaware, Maryland, New Jersey, New York, Pennsylvania, Virginia, West Virginia

Table 7. United States Soybean Yield Estimates

	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002
										million bushels														
August 1	30.3	27.4	30.2	32.3	29.7	30.5	31.5	32.9	34.7	26.0	32.3	32.5	31.8	35.8	33.8	37.6	36.4	36.3	39.5	39.5	39.2	40.7	38.7	36.5
September 1	30.9	27.0	31.2	32.6	24.9	30.3	33.2	33.1	34.0	25.9	32.0	32.4	31.0	35.9	34.0	38.2	37.0	35.8	39.3	40.6	37.9	39.5	38.2	37.0
October 1	31.5	26.0	31.5	32.4	24.7	29.5	33.9	33.3	34.2	26.4	32.6	32.3	33.0	36.3	33.7	40.5	35.5	37.0	39.0	38.7	37.0	38.7	39.2	37.0
November 1	31.8	26.5	31.0	32.4	25.0	28.5	34.2	33.8	34.1	26.6	32.8	33.7	33.5	37.3	32.7	41.5	35.4	37.9	39.2	38.6	36.7	38.0	39.4	37.5
January 1	32.2	26.8	30.4	32.2	25.7	28.2	34.1	33.8	33.7	26.8	32.4	34.0	34.3	37.6	32.0	41.9	34.9	37.6	39.0	38.9	36.5	38.1	39.6	37.8
FINAL	32.1	26.5	30.1	31.5	26.2	28.1	34.1	33.3	33.9	27.0	32.3	34.1	34.2	37.6	32.6	41.4	35.3	37.6	38.9	38.9	36.5	38.1	39.6	37.8

Table 8. United States Soybean Production Estimates

	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002
										million bushels														
August 1	2,130	1,880	2,017	2,293	1,843	2,035	1,959	1,979	2,000	1,474	1,905	1,836	1,869	2,079	1,902	2,282	2,246	2,300	2,744	2,727	2,870	2,989	2,867	2,628
September 1	2,174	1,831	2,089	2,314	1,535	2,028	2,063	1,980	1,957	1,472	1,889	1,835	1,817	2,085	1,909	2,316	2,285	2,270	2,746	2,909	2,778	2,900	2,834	2,656
October 1	2,213	1,757	2,107	2,300	1,517	1,972	2,108	1,992	1,968	1,501	1,926	1,823	1,934	2,108	1,891	2,458	2,190	2,346	2,722	2,769	2,696	2,823	2,907	2,654
November 1	2,236	1,775	2,077	2,300	1,535	1,902	2,129	2,009	1,960	1,512	1,937	1,904	1,962	2,167	1,834	2,523	2,183	2,403	2,736	2,763	2,673	2,777	2,923	2,690
January 1	2,268	1,817	2,030	2,277	1,595	1,861	2,099	2,007	1,905	1,539	1,927	1,922	1,986	2,197	1,809	2,558	2,152	2,382	2,727	2,757	2,643	2,770	2,891	2,730
FINAL	2,261	1,798	1,989	2,190	1,636	1,861	2,099	1,943	1,938	1,549	1,924	1,926	1,987	2,190	1,870	2,515	2,174	2,380	2,689	2,741	2,654	2,758	2,891	2,691

Table 9. World Oilseed and Soybean Production

Year	Major Oilseeds			Soybeans		
	United States	Ex-United States	Total	United States	Ex-United States	Total
	million metric tons					
1977-78	56.5	93.7	150.2	47.95	23.98	71.93
1978-79	58.6	92.0	150.6	50.86	26.62	77.48
1979-80	72.4	98.1	170.5	61.72	31.79	93.51
1980-81	55.8	99.8	155.6	48.77	32.20	80.97
1981-82	64.0	105.5	169.5	54.13	31.93	86.06
1982-83	68.2	110.1	178.3	59.61	33.96	93.57
1983-84	50.4	115.1	165.5	44.52	38.64	84.16
1984-85	59.2	131.7	191.1	50.64	42.50	93.14
1985-86	65.4	130.8	196.2	57.13	39.92	97.05
1986-87	59.4	135.0	194.4	52.87	45.21	98.08
1987-88	60.6	150.0	210.6	52.75	51.06	103.81
1988-89	50.3	153.9	204.2	42.15	53.49	95.64
1989-90	59.3	153.1	212.4	52.35	55.02	107.37
1990-91	60.6	155.1	215.7	52.42	51.57	103.99
1991-92	64.3	160.0	224.3	54.07	53.31	107.38
1992-93	68.4	158.9	227.4	59.61	57.69	117.30
1993-94	59.5	168.4	227.9	50.92	66.58	117.50
1994-95	79.7	181.2	260.9	68.49	69.14	137.63
1995-96	69.1	190.6	259.7	59.24	65.72	124.96
1996-97	74.8	187.0	261.8	64.78	67.40	132.18
1997-98	83.1	203.9	287.0	73.18	84.90	158.07
1998-99	84.4	210.3	294.7	74.60	85.21	159.81
1999-00	82.3	221.1	303.4	72.22	87.68	159.90
2000-01	84.9	228.5	313.4	75.06	100.00	175.06
2001-02	89.8	234.6	324.5	78.67	105.75	184.42
2002-03	83.3	244.4	327.7	74.29	121.53	195.82
2003-04	87.9	264.2	352.1	78.52	129.02	207.54

¹WASDE July 2003 and earlier.

Table 10. South American Soybean Area, Yield and, Production, 1988 to Date

Year	Brazil			Argentina			Paraguay		
	Area	Yield	Production	Area	Yield	Production	Area	Yield	Production
	mil. ha.	t/ha.	mil.t	mil. ha.	t/ha.	mil. t.	mil. ha.	t/ha.	mil. t.
1988-89	12.15	1.94	23.60	4.00	1.63	6.50	0.85	1.90	1.62
1989-90	11.55	1.76	20.34	4.95	2.17	10.75	0.98	1.61	1.58
1990-91	9.75	1.62	15.75	4.75	2.42	11.50	0.89	1.46	1.30
1991-92	9.70	1.99	19.30	4.80	2.32	11.15	0.90	1.44	1.30
1992-93	10.63	2.12	22.50	4.90	2.32	11.35	0.98	1.79	1.75
1993-94	11.44	2.16	24.70	5.40	2.30	12.40	1.05	1.71	1.80
1994-95	11.68	2.22	25.90	5.70	2.19	12.50	1.10	2.00	2.20
1995-96	10.95	2.21	24.15	5.98	2.08	12.43	1.10	2.18	2.40
1996-97	11.80	2.27	26.80	6.26	1.81	11.20	1.20	2.31	2.77
1997-98	13.00	2.50	32.50	6.95	2.80	19.50	1.20	2.49	2.99
1998-99	12.90	2.43	31.30	8.17	2.45	20.00	1.20	2.54	3.05
1999-00	13.60	2.51	34.20	8.58	2.47	21.20	1.15	2.52	2.90
2000-01	13.93	2.80	39.00	10.40	2.67	27.80	1.35	2.61	3.52
2001-02	16.35	2.66	43.50	11.40	2.63	30.00	1.42	2.18	3.10
2002-03	18.40	2.85	52.50	12.60	2.80	35.50	1.45	2.69	3.90
2003-04	20.00	2.80	56.00	13.20	2.80	37.00	1.55	2.74	4.25

Source: USDA, FAS

Table 11. Soybean Production by Country

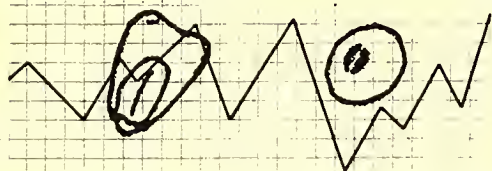
Year	United States	Brazil ^a	Argentina ^a	Paraguay ^a	China	Other	World	All Foreign
million bushels								
1970	1,127	76	2	3	254	165	1,627	500
1971	1,176	135	3	4	290	126	1,734	558
1972	1,283	184	10	4	320	66	1,867	584
1973	1,547	289	18	7	367	64	2,292	745
1974	1,215	363	18	8	349	54	2,007	792
1975	1,547	413	26	10	367	46	2,409	862
1976	1,288	460	51	14	242	128	2,183	895
1977	1,762	350	99	12	266	154	2,643	881
1978	1,870	557	136	20	278	167	2,847	977
1979	2,261	376	132	21	274	191	3,255	994
1980	1,798	558	129	22	292	176	2,975	1,177
1981	1,989	471	152	22	342	186	3,162	1,173
1982	2,190	542	154	19	332	200	3,437	1,247
1983	1,636	571	257	20	359	213	3,056	1,420
1984	1,861	672	248	35	356	248	3,421	1,561
1985	2,099	518	268	22	386	272	3,565	1,466
1986	1,943	636	257	35	427	303	3,601	1,658
1987	1,938	662	356	40	457	359	3,812	1,874
1988	1,549	852	235	60	428	387	3,506	1,957
1989	1,924	747	395	58	376	445	3,945	2,020
1990	1,926	579	423	48	404	446	3,826	1,900
1991	1,987	709	410	48	357	435	3,946	1,959
1992	2,188	827	417	64	378	434	4,308	2,120
1993	1,871	908	456	66	563	454	4,318	2,447
1994	2,517	952	459	81	588	460	5,057	2,540
1995	2,177	887	457	88	496	487	4,591	2,415
1996	2,380	1,003	412	102	486	474	4,857	2,477
1997	2,689	1,194	717	110	551	545	5,806	3,117
1998	2,741	1,150	735	112	557	577	5,872	3,131
1999	2,654	1,257	779	107	525	527	5,875	3,221
2000	2,758	1,433	1,021	129	566	525	6,432	3,674
2001	2,891	1,598	1,102	114	566	505	6,776	3,885
2002	2,730	1,929	1,304	143	607	482	7,195	4,465
2003	2,885	2,058	1,360	156	610	557	7,626	4,741

^a Harvested in the spring of the following year.



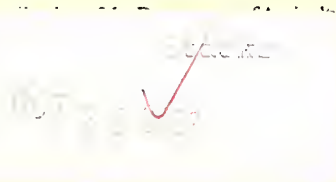
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CORN: A RECORD LARGE CROP

OCTOBER 2003

Darrel Good

2003 – No. 7

Summary

The USDA's October forecast is for a record U.S. corn crop of 10.207 billion bushels. That forecast, along with September 1, 2003 inventories that were 77 million bushels larger than expected, projects to 2003-04 marketing year supplies of 11.3 billion bushels, 684 million bushels above the supplies of a year ago.

Domestic use of corn during the 2003-04 marketing year is projected to increase by over 250 million bushels, led by increased ethanol production and a modest increase in livestock production. Exports are expected to increase about 275 million bushels from the low level of last year. Still, the large crop and a modest build-up in year ending stocks will keep corn prices at lower levels than in 2002-03, particularly in the first half of the marketing year. The USDA projects the marketing year average price of corn in a range of \$1.90 to \$2.30, compared to an average of \$2.32 for the 2002-03 marketing year. Prices at harvest time are near the CCC loan rate in many areas. Some seasonal recovery in cash prices is expected after harvest.

September 1 Stocks Exceed Expectations

The USDA's September 30 *Grain Stocks* report estimated September 1, 2003 corn stocks at 1.086 billion bushels (Table 1). That is the lowest level of year-ending stocks in six years, but is 77 million bushels above the USDA's projection and about 50 million bushels larger than the average

pre-report guess. That level of inventory means that consumption of U.S. corn for all purposes during the 2002-03 marketing year reached only 9.533 billion bushels. Feed and residual use was at a four year low of 5.637 billion bushels and exports were at a five year low of only 1.6 billion bushels. Feed and residual use of corn during the summer of 2003 was a surprisingly small 891 million bushels. Apparent feed and residual use of wheat was large during that quarter in spite of high wheat prices. In contrast, use of corn for seed, food, and industrial purposes was a record large 2.3 billion bushels. The large annual increase in industrial use of corn for the past two years was led by an increase in use of corn for ethanol production. Use was estimated at 953 million bushels during the 2002-03 marketing year.

Record Crop in 2003

In early July, the USDA's World Outlook Board projected a 2003 corn crop of 10.27 billion bushels, based on trend yield adjusted by crop condition ratings. By late July 2003, there was considerable discussion of the possibility of a 10.5 billion bushels U.S. corn crop this year. In the first survey based projection in August, the USDA projected the crop at 10.064 billion bushels. That projection dropped to 9.944 billion bushels in September, but rebounded to 10.207 billion in October (Table 2). That production forecast reflects an estimate of harvested acreage of 71.765 million (Table 3). Acreage harvested for grain is expected to exceed that of 2002 by 2.45

million even though acreage planted for all purposes is essentially unchanged from that of 2002. There was an increase in acreage harvested for silage and abandoned acres in 2002 due to dry growing conditions in some eastern areas.

The 2003 U.S. average corn yield is projected at a record 142.2 bushels. That projection is 3.7 bushels above the September projection, 12.2 bushels above the 2002 average, and 3.6 bushels above the previous record yield of 1994 (Table 4). Of the major corn producing states, the highest average yield (169 bushels) is projected for Illinois. That projection is 33 bushels above the 2002 average and 13 bushels above the previous record established in 1994. The average yield for the central Illinois crop reporting district is projected at 193 bushels. Of the major corn producing states, the average yield is projected to be below that of a year ago in only Colorado, Iowa, Minnesota, North Dakota, Texas, and Wisconsin. The largest year over year increase is projected for Ohio. The average of 154 bushels is 66 bushels above last year's drought reduced yield.

There is some expectation that the November production forecast will be slightly larger than the October forecast. Since 1975, the November yield forecast was below the October forecast only six times. In the four years that the yield forecast declined in September and then increased in October (as was the case this year), the yield forecast increased again in November in three years. The increase ranged from 1 bushel (1975 and 1999) to 2.7 bushels (2001). The decline in 1991 was 0.2 bushels. The USDA incorporated administrative acreage information in the October production forecast. It is not likely that the harvested acreage estimate will change in November. It may be that the November 2003 forecast will be for a crop near 10.3 billion bushels.

Production of other U.S. feedgrains (sorghum, barley, and oats) is also projected to be larger this year than last year. Combined production of those three crops is projected at 822 million bushels, up from 716 million produced last year.

That projection, however, is 20 million bushels below the September forecast. The 106 million bushel increase in production is also partially offset by a 55 million bushel reduction in the level of stocks at the beginning of the marketing year. U.S. feed grain production in 2003 is projected to be 13.4 percent larger than in 2002 and supplies (production, beginning stocks and imports) are expected to be 6.4 percent larger.

U.S. Export Prospects

Annual U.S. corn exports ranged from 1.937 billion to 1.989 billion bushels from 1998-99 through 2001-02. However, shipments dropped to 1.6 billion bushels during the 2002-03 marketing year, the lowest level in five years and second lowest in nine years. Most of the decline in exports last year was the result of smaller shipments to South Korea, Egypt, and Taiwan. World trade of corn last year was actually larger than the previous year. Chinese exports increased from about 340 million bushels in 2001-02 to 570 million bushels last year. In addition, Brazilian corn exports jumped from 80 million to 235 million bushels and Argentine exports increased from 425 million to 470 million bushels. The U.S. share of the corn export market declined from 64 percent to 51 percent.

A number of factors point to larger U.S. corn exports during the current marketing year. The 2003 Chinese corn crop is projected to be about 290 million bushels smaller than the 2002 crop. While the Argentine crop is expected to be 20 million bushels larger, the Brazilian crop is currently projected to be off 295 million bushels. Combined production in those three countries appears to be down 565 million bushels. In addition, the crop in Europe is estimated to be down by 630 million bushels. Small increases in production are expected in Canada, Mexico, Russia, and in southeast Asia. At 13.77 billion bushels, corn production outside of the U.S. in 2003-04 is projected to be 900 million bushel less than the crop of last year. Production of all coarse grains outside of the U.S. is projected to be down by 20.5 million tons, or about 3 percent (Table 5).

In addition to less competition from other exporters, the U.S. should benefit from a lower valued U.S. dollar. The U.S. dollar index is at the lowest value since late 1998 and nearly 25 percent lower than the highs during 2001 and early 2002.

The USDA currently projects U.S. exports during the 2003-04 marketing year at 1.8 billion bushels, up 12.5 percent from last year's shipments. During the first 5.5 weeks of the marketing year (September 1 through October 9) U.S. export shipments totaled 182 million bushels, about 21 percent more than during the same period last year. As of October 2, unshipped sales of U.S. corn stood at 333 million bushels, compared to 277 million bushels unshipped on the same date last year. Export commitments are 20 percent above those of last year. The increase is in sales to Taiwan, Egypt, and unknown destinations. Commitments to Central and South American countries are smaller than at this time last year. We are inclined to project U.S. exports for the current year at 1.875 billion bushels (Table 6).

Domestic Use to Increase

Feed and residual use of corn during the 2002-03 marketing year was a surprisingly small 5.637 billion bushels. Fewer livestock numbers and increased wheat feeding in the summer of 2003 explains some of the 224 million bushel (4 percent) decline from use during the previous year. The declines in use occurred during the first and the last quarter of the year (Table 1). Since use in this category is calculated as a residual, apparent use during the first quarter can be influenced by errors in the production estimate. The 2002 crop may have been slightly larger than estimated, but probably not much.

For the 2003-04 marketing year, Feed use is expected to be supported by a modest expansion in hog numbers beginning this winter, aggressive placement of cattle into feedlots, expanding poultry numbers, minimal increases in feeding of other grains, and by high soybean meal prices. With soybean meal prices per pound more than three times the price of corn, some minimal substitution of corn for meal may occur. The

USDA projects feed and residual use at 5.7 billion bushels, up about 1.2 percent from use of a year ago. We are inclined to use a slightly larger forecast of 5.75 billion bushels.

Use of corn for all seed, food, and industrial purposes grew by nearly 12 percent during the 2002-03 marketing year. Almost all of that growth was in corn for ethanol production. That category accounted for nearly 41 percent of use. The USDA projects a slower rate of growth in food and industrial use of corn during the 2003-04 marketing year. Use for ethanol production is expected to increase by about 145 million bushels (15 percent), but use for high fructose corn syrup is expected to remain unchanged. Use for all purposes is projected at 2.45 billion bushels.

Consumption of U.S. corn during the 2003-04 marketing year is projected at 10.075 billion bushels, leaving year end stocks at 1.228 billion bushels. If the crop is larger than currently forecast, ending stocks might be a bit larger. At the projected level, U.S. ending stocks would be only modestly larger than stocks at the beginning of the year. Supplies are ample. However, stocks of feed grains outside of the U.S. are expected to decline to about half the level of three years ago. Stocks in China are projected to be only 25 percent as large as stocks three years ago. In addition to declines in China this year, reductions are forecast for the European Union, Eastern Europe, and Russia. Small stocks world wide keeps the corn market vulnerable to a short fall in production.

Will U.S. Corn Acreage Increase in 2004?

Record corn yields and disappointing soybean yields in 2004 have raised the possibility of some switching of acreage from soybeans to corn in 2004. A lot of factors will go into that decision so that it is too early to make a good forecast. Currently, futures prices for the 2004 crop translate into cash prices that are above the CCC loan rate for both crops. The ratio of November 2004 soybean future prices to December 2004 corn futures price is about 2.33 to 1. Generally, speaking, a ratio of 2.5 is considered to be about breakeven, although the breakeven ratio varies

considerably by region and will be impacted by the magnitude of input prices in 2004.

Since 1996, when set-aside programs were eliminated, U.S. corn acreage has varied from 75.752 million acres (2001) to 80.165 million acres (1998). Acreage has been trending a little higher in Missouri and South Dakota (Table 7). Acreage in other states has not demonstrated a trend, although acreage in Illinois is well above the 1998 low of 10.8 million and acreage in Nebraska is well below the 1997 high of 8.9 million. At this time, we might expect a modest increase in corn acreage in 2004, to a total of perhaps 79.3 million acres.

Price Prospects

December corn futures traded to a low of about \$2.10 in late July as growing conditions pointed to a crop of 10.5 billion bushels. A hot, dry August pushed that contract above \$2.45. Prices then moved lower following the September and October production forecasts by the USDA. The price of that contract is currently finding support just above \$2.15. Surprisingly, basis levels have generally remained strong in the early part of harvest. In central Illinois, the current average basis is \$.10 stronger than the average basis of the past five years and only \$.05 weaker than the extremely strong basis of last year when the crop was 25 percent smaller. The daily average cash price in central Illinois reached a low of \$2.00 on October 1 and has been trading between \$2.00 and \$2.05 since. The daily price has been slightly below the loan rate, with the loan deficiency payment (LDP) reaching \$.08 on October 14.

For the year, the USDA projects the U.S. average farm price in a range of \$1.90 to \$2.30. We expect the price to be in the upper end of that range, close to \$2.20 per bushel. The futures market currently reflects a marketing year average of about \$2.10. The lowest cash price of the year would be expected near the middle or end of the harvest. A larger crop forecast in November might be the right timing for a low. That low in central Illinois could be in the \$1.90 range. Typically, harvest lows in large crop years are followed by spring/summer highs that are at least \$.60 over the harvest low. If that relationship holds, cash prices could spike to \$2.50 sometime in the spring/summer of 2004.

Marketing strategies for unpriced corn will center around the loan program. For some bushels, establishing the LDP at harvest and holding the crop for a post-harvest recovery in prices seems prudent. There is a small premium for January delivery over harvest delivery. Establishing the LDP at harvest and selling (cash or futures) for later delivery might also be considered. If the LDP never gets very large, holding the crop with the protection of the loan program might be considered as well.



Issued by Darrel Good
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Table 1 Corn Quarterly Balance Sheet

	1981-82	1982-83	1983-84	1984-85	1985-86	1986-87	1987-88	1988-89	1989-90	1990-91	1991-92	1992-93	1993-94	1994-95	1995-96	1996-97	1997-98	1998-99	1999-00	2000-01	2001-02	2002-03
	million bushels																					
September 1 stocks	1,392	2,537	3,523	1,006	1,648	4,040	4,882	4,259	1,930	1,344	1,521	1,100	2,113	850	1,558	426	883	1,308	1,787	1,718	1,899	1,596
Production	8,119	8,235	4,174	7,672	8,875	8,226	7,131	4,929	7,532	7,934	7,475	9,477	6,338	10,051	7,400	9,233	9,207	9,759	9,431	9,915	9,507	9,008
TOTAL ^a	9,511	10,772	7,699	8,680	10,534	12,267	12,016	9,191	9,464	9,282	9,016	10,584	8,472	10,910	8,974	9,672	10,099	11,085	11,232	11,639	11,416	10,619
September-November																						
Seed, food, ind	173	208	227	244	276	295	296	302	312	338	361	370	383	410	417	388	435	450	459	466	489	534
Export	519	443	493	503	415	318	396	471	582	383	421	488	435	449	660	487	380	450	535	507	448	394
Feed, residual	1,218	1,215	1,326	1,301	1,219	1,348	1,551	1,344	1,487	1,619	1,673	1,814	1,701	1,963	1,778	1,885	2,030	2,118	2,188	2,131	2,207	2,041
TOTAL	1,910	1,866	2,046	2,048	1,910	1,961	2,243	2,117	2,381	2,339	2,455	2,672	2,519	2,822	2,856	2,759	2,845	3,018	3,182	3,104	3,144	2,969
December 1 stocks	7,601	8,906	5,652	6,631	8,615	10,305	9,771	7,072	7,082	6,940	6,547	7,906	5,937	8,080	6,106	6,903	7,247	8,052	8,039	8,530	8,265	7,638
Seed, food, ind	166	192	212	236	262	281	288	301	313	330	362	365	379	410	405	400	425	434	447	465	480	548
Export	470	510	506	580	460	313	405	502	682	471	362	463	330	590	562	525	380	465	465	415	448	407
Feed, residual	1,199	1,305	1,069	1,192	1,306	1,463	1,444	1,065	1,276	1,351	1,267	1,401	1,240	1,482	1,344	1,486	1,503	1,460	1,529	1,607	1,542	1,555
TOTAL	1,835	2,007	1,787	2,008	2,028	2,057	2,137	1,868	2,271	2,152	1,991	2,229	1,949	2,493	2,311	2,411	2,308	2,359	2,441	2,488	2,471	2,510
March 1 stocks	5,766	6,899	3,865	4,623	6,587	8,248	7,636	5,204	4,812	4,789	4,561	5,678	3,996	5,502	3,800	4,494	4,940	5,698	5,602	6,043	5,795	5,132
Seed, food, ind	201	228	253	294	307	333	337	353	376	384	414	414	423	452	433	471	470	495	512	514	545	610
Export	596	475	513	475	201	496	510	592	601	454	371	411	270	568	610	433	350	497	451	455	497	392
Feed, residual	1,089	1,272	954	1,019	1,091	1,088	951	841	993	960	1,042	1,146	950	1,159	1,044	1,097	1,084	1,097	1,058	1,153	1,161	1,150
TOTAL	1,886	1,975	1,720	1,788	1,599	1,917	1,798	1,786	1,970	1,798	1,828	1,971	1,642	2,180	2,087	2,001	1,904	2,089	2,022	2,122	2,203	2,152
June 1 stocks	3,880	4,924	2,145	2,836	4,990	6,332	5,839	3,419	2,843	2,992	2,739	3,709	2,360	3,415	1,718	2,497	3,040	3,616	3,586	3,924	3,597	2,985
Seed, food, ind	193	227	238	293	307	324	331	341	369	374	396	407	429	442	373	460	475	467	496	511	540	606
Export	412	393	374	292	151	365	406	463	503	419	430	301	293	570	396	353	394	572	485	564	511	405
Feed, residual	739	781	527	603	499	761	843	685	627	679	816	891	789	846	527	809	865	792	890	951	891	891
TOTAL	1,344	1,401	1,139	1,188	957	1,450	1,580	1,489	1,499	1,472	1,642	1,599	1,511	1,858	1,295	1,617	1,734	1,831	1,871	2,026	2,002	1,902
September 1 stocks	2,537	3,523	1,006	1,648	4,040	4,882	4,259	1,930	1,344	1,521	1,100	2,113	850	1,558	426	883	1,308	1,787	1,718	1,899	1,596	1,086
Annual																						
Seed, food, ind	733	855	930	1,067	1,152	1,233	1,251	1,298	1,370	1,425	1,533	1,556	1,613	1,715	1,628	1,714	1,805	1,846	1,913	1,957	2,054	2,298
Export	1,997	1,821	1,887	1,850	1,227	1,492	1,716	2,029	2,367	1,727	1,584	1,663	1,328	2,177	2,228	1,797	1,504	1,989	1,937	1,941	1,965	1,598
Feed, residual	4,245	4,573	3,876	4,115	4,114	4,660	4,789	3,934	4,382	4,609	4,798	5,252	4,680	5,460	4,693	5,277	5,482	5,468	5,665	5,842	5,861	5,637
TOTAL	6,975	7,249	6,693	7,032	6,494	7,385	7,757	7,260	8,120	7,761	7,916	8,471	7,622	9,352	8,548	8,789	8,791	9,298	9,515	9,740	9,820	9,533

^a Includes imports for the entire year

Table 2. United States Corn Production Estimates

	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
	million bushels																						
July	7,116	...	...	...	...	...	...	5,200															
August	7,735	8,315	5,237	7,668	8,266	8,316	7,231	4,479	7,348	7,850	7,418	8,762	7,423	9,214	8,122	8,695	9,276	9,592	9,561	10,369	9,266	8,886	10,064
September	7,940	8,319	4,390	7,552	8,469	8,268	7,141	4,462	7,321	8,118	7,295	8,770	7,229	9,257	7,832	8,804	9,268	9,738	9,381	10,362	9,238	8,849	9,944
October	8,081	8,315	4,259	7,498	8,603	8,220	7,139	4,553	7,449	8,022	7,479	8,938	6,962	9,602	7,541	9,012	9,312	9,743	9,467	10,192	9,430	8,970	10,207
November	8,097	8,330	4,121	7,527	8,717	8,223	7,166	4,671	7,590	7,935	7,479	9,329	6,503	10,010	7,374	9,265	9,359	9,836	9,537	10,054	9,546	9,003	
January	8,201	8,397	4,204	7,656	8,865	8,253	7,064	4,921	7,527	7,933	7,474	9,479	6,344	10,103	7,374	9,293	9,366	9,761	9,437	9,968	9,507	9,008	
FINAL	8,119	8,235	4,174	7,672	8,875	8,226	7,131	4,929	7,532	7,934	7,475	9,477	6,338	10,051	7,400	9,233	9,207	9,759	9,431	9,915	9,507		

Table 3. United States Corn Planting Intentions, Actual Plantings, and Acres Harvested

Year	Planted Acreage			Actual	Harvested Acreage
	February/January Intentions	March Intentions	June Intentions		
			thousand acres		
1976	80,822	82,727	84,092	84,588	71,506
1977	84,526	83,923	82,735	84,328	71,614
1978	80,944	80,237	78,717	81,675	71,930
1979	80,676	79,209	79,751	81,394	72,400
1980	83,131	82,022	83,478	84,043	72,961
1981	...	83,977	84,677	84,097	74,524
1982	...	84,735	82,129	81,857	72,719
1983	69,569 ^a	58,812	60,129	60,217	51,479
1984	...	81,766	79,940	80,617	71,897
1985	...	82,021	83,217	83,398	75,209
1986	...	78,066	76,646	76,580	68,907
1987	...	67,556	66,024	66,200	59,505
1988	...	66,926	67,519	67,717	58,250
1989	...	73,253	72,790	72,322	64,783
1990	...	74,804	74,574	74,166	66,952
1991	77,500	76,124	75,909	75,957	68,822
1992		79,007	79,335	79,311	72,077
1993		76,486	74,259	73,239	62,933
1994		78,625	78,767	78,921	72,514
1995		75,323	72,800	71,479	65,210
1996		79,920	80,355	79,229	72,644
1997		81,416	80,227	79,537	72,671
1998		80,781	80,798	80,165	72,589
1999		78,219	77,611	77,386	70,487
2000		77,881	79,579	79,551	72,440
2001		76,693	76,109	75,752	68,808
2002		79,047	78,847	79,054	69,313
2003		79,022			(71,765)

^a February

Table 4. United States Corn Yield Estimates

	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
	bushels per acre																												
July 1	93.0	90.5	89.4	90.1	95.8	99.3	95.9	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
August 1	87.4	86.7	87.3	96.1	102.1	93.0	104.3	113.9	99.9	107.9	110.6	120.4	121.4	78.5	112.8	117.7	107.8	121.3	116.0	128.4	125.6	118.7	125.3	130.0	134.7	141.9	133.9	125.2	139.9
September 1	85.1	82.8	89.7	100.3	104.6	91.8	107.1	113.9	85.1	106.3	113.3	119.7	119.9	78.5	112.4	121.7	106.1	121.4	113.1	129.0	121.1	120.2	125.2	132.0	132.2	141.8	133.5	125.4	138.5
October 1	86.2	82.7	90.8	100.7	106.4	90.8	109.0	114.2	82.9	105.5	115.1	119.2	119.9	80.2	114.4	120.3	108.8	123.8	110.3	133.8	116.6	123.0	125.8	132.0	133.5	139.6	136.3	127.2	142.2
November 1	87.2	85.5	91.5	101.2	109.2	90.8	109.2	114.2	80.5	105.9	116.6	119.3	120.3	82.3	116.6	119.0	108.6	129.3	103.1	138.4	113.7	126.5	126.4	133.3	134.5	137.7	138.0	127.6	
January 1	86.2	87.4	90.8	101.2	109.4	91.0	109.9	114.8	81.6	106.6	118.0	119.3	119.4	84.6	116.2	118.5	108.6	131.4	100.7	138.6	113.5	127.1	127.0	134.4	133.8	137.1	138.2	130.0	
FINAL	86.4	88.0	90.8	101.0	109.5	91.0	108.9	113.2	81.1	106.7	118.0	119.3	119.8	84.6	116.3	118.5	108.6	131.5	100.7	138.6	113.5	127.1	126.7	134.4	133.8	136.9	138.2		

Table 5. World Coarse Grain Production

	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
	million metric tons																				
United States	137.1	237.7	274.9	252.8	215.9	149.7	221.4	230.7	218.6	277.4	186.5	284.9	210.0	265.7	260.4	271.5	263.2	273.1	261.9	245.0	277.8
Former USSR	99.0	90.5	100.0	105.9	113.7	97.5	104.8	99.4	80.4	95.3	95.6	79.2	57.4	52.0	67.9	38.0	40.5	49.5	62.4	60.8	52.7
Western Europe	86.2	103.6	101.4	94.0	93.3	99.5	102.2	97.6	104.3	93.8	96.1	86.6	88.5	103.8	109.4	105.6	102.6	107.1	106.7	106.1	92.8
China	92.7	96.2	82.3	87.0	95.8	94.2	93.5	111.7	112.3	108.4	117.8	114.3	124.5	141.3	114.7	144.2	137.2	114.0	122.3	129.2	125.3
Central Europe	67.1	72.8	65.5	73.9	63.9	61.3	60.2	51.4	64.7	43.2	44.5	46.9	51.4	50.0	59.0	51.0	54.7	37.0	51.0	50.3	47.6
Canada	21.0	22.0	23.9	25.5	25.5	19.7	23.5	24.8	21.8	19.6	24.0	23.4	24.1	28.2	25.1	26.6	26.8	24.0	22.6	19.9	25.9
India	34.1	31.4	25.8	26.6	23.5	31.3	34.6	32.6	25.9	36.8	31.0	30.1	29.8	34.3	30.9	31.7	30.5	31.6	34.7	25.7	32.5
Brazil	21.5	22.5	21.7	27.3	25.4	26.7	22.5	24.4	31.4	29.9	33.8	38.2	33.2	36.6	31.3	33.5	32.6	42.7	36.8	47.0	39.2
Argentina	17.4	18.9	17.4	13.0	13.1	7.3	8.3	10.8	14.5	14.1	13.3	13.9	14.1	18.9	24.7	17.8	21.5	19.6	22.6	19.9	25.9
South Africa	5.1	9.0	8.9	7.9	7.9	13.0	9.5	8.9	3.6	10.7	14.0	5.4	11.0	10.7	8.2	8.1	11.1	8.4	10.5	9.6	9.4
World	685.4	814.1	843.3	835.2	791.5	731.2	802.6	819.5	804.2	869.1	799.9	873.6	802.9	908.3	883.2	890.1	876.4	859.7	892.3	869.4	881.7
Excluding the U.S.	548.3	576.4	568.4	582.4	575.7	581.5	581.2	588.8	585.6	591.7	613.4	588.7	592.9	642.6	622.8	618.4	613.2	586.5	630.5	624.4	603.9

Source: USDA, FAS, World Crop Production, Oct. 2003 and earlier issues.

Table 6. Corn Annual Balance Sheet

	1989-90	1990-91	1991-92	1992-93	1993-94	1994-95	1995-96	1996-97	1997-98	1998-99	1999-00	2000-01	2001-02	2002-03	2003-04 ^a
Carryin	1,930	1,344	1,521	1,100	2,113	850	1,558	426	883	1,308	1,787	1,718	1,899	1,596	1,086
Production	7,532	7,934	7,475	9,477	6,338	10,051	7,400	9,233	9,207	9,759	9,431	9,915	9,507	9,008	10,207
TOTAL ^b	9,464	9,282	9,016	10,584	8,472	10,910	8,974	9,672	10,099	11,085	11,232	11,659	11,416	10,619	11,303
Seed, food, industrial	1,370	1,425	1,533	1,556	1,613	1,715	1,628	1,714	1,805	1,846	1,913	1,957	2,054	2,298	2,450
Export	2,367	1,727	1,584	1,663	1,328	2,177	2,228	1,797	1,504	1,981	1,937	1,935	1,905	1,598	1,875
Feed and residual	4,382	4,609	4,798	5,252	4,680	5,460	4,693	5,277	5,482	5,471	5,664	5,848	5,861	5,637	5,750
TOTAL	8,120	7,761	7,915	8,471	7,621	9,352	8,548	8,789	8,791	9,298	9,515	9,741	9,820	9,533	10,075
Carryout	1,344	1,521	1,100	2,113	850	1,558	426	883	1,308	1,787	1,718	1,899	1,596	1,086	1,228
U.S. average price	\$2.36	\$2.28	\$2.37	\$2.07	\$2.50	\$2.26	\$3.24	\$2.71	\$2.45	\$1.94	\$1.82	\$1.85	\$1.97	\$2.32	\$2.20

^a Projected^b Includes imports

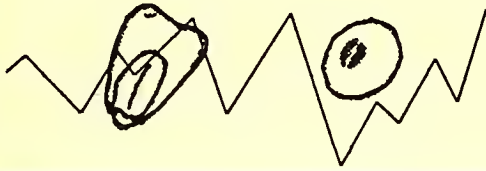
Table 7. Planted Acreage of Corn by State

State	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003 ^a
	thousand acres													
Georgia	660	600	750	650	600	400	580	550	500	350	360	265	340	370
Illinois	10,600	11,200	11,200	10,590	11,600	10,200	11,000	11,200	10,600	10,800	11,200	11,000	11,200	11,100
Indiana	5,600	5,700	6,100	5,550	6,100	5,400	5,600	5,900	5,800	5,800	5,700	5,800	5,400	5,700
Iowa	12,800	12,500	13,200	12,000	13,000	11,700	12,700	12,200	12,500	12,100	12,300	11,700	12,300	12,400
Kansas	1,600	1,800	1,850	2,000	2,280	2,150	2,500	2,750	3,000	3,150	3,450	3,450	3,250	2,900
Kentucky	1,350	1,400	1,420	1,370	1,350	1,280	1,300	1,270	1,300	1,320	1,330	1,200	1,130	1,230
Michigan	2,400	2,600	2,700	2,500	2,550	2,450	2,650	2,500	2,300	2,200	2,200	2,200	2,250	2,300
Minnesota	6,700	6,600	7,200	6,300	7,000	6,700	7,500	7,000	7,300	7,100	7,200	6,800	7,200	7,100
Missouri	2,100	2,300	2,500	2,200	2,400	1,650	2,750	2,700	2,650	2,650	2,850	2,700	2,800	2,950
Nebraska	7,700	8,200	8,300	8,000	8,600	8,000	8,500	8,900	8,800	8,600	8,500	8,100	8,400	8,000
North Carolina	1,200	1,050	1,150	1,000	1,000	800	1,000	960	860	750	730	700	790	740
Ohio	3,700	3,700	3,800	3,500	3,700	3,300	2,900	3,800	3,550	3,450	3,550	3,400	3,200	3,450
Pennsylvania	1,380	1,400	1,380	1,370	1,400	1,380	1,450	1,550	1,550	1,500	1,550	1,500	1,450	690
South Dakota	3,400	3,750	3,800	3,350	3,800	2,800	4,000	3,800	3,900	3,600	4,300	3,800	4,400	2,000
Tennessee	620	620	740	660	670	640	770	700	700	630	650	630	690	1,450
Texas	1,650	1,700	1,750	2,000	2,150	2,100	2,100	2,000	2,400	1,950	2,100	1,600	2,050	4,500
Wisconsin	3,700	3,800	3,900	3,400	3,750	3,650	3,900	3,850	3,700	3,600	3,500	3,400	3,650	3,700
United States	74,171	75,951	79,325	73,323	79,158	71,245	79,487	79,537	80,165	77,386	79,551	75,752	79,054	79,066

^a Intentions



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SOYBEANS: WILL SOUTH AMERICAN PRODUCTION OFFSET THE SMALL U.S. CROP?

OCTOBER 2003

Darrel Good

2003 – No. 8

Summary

The USDA's October forecast for a 2.468 billion bushel U.S. soybean crop pushed prices to the highest level in about six years. The small crop will require a significant reduction in the use of U.S. soybeans during the current marketing year and will result in a draw down in inventories to a pipeline level.

The shortfall in U.S. production is expected to be filled again this year by increased production in South America. The size of that crop, however, will remain in some doubt until early next spring. For the near term, the soybean market will be watching for indications that the necessary reduction in use is or is not occurring. This appears to be a year when prices will peak early in the crop year. However, prices could remain very volatile as the South American growing season unfolds. Prices during the last half of the 2003-04 marketing year will be influenced by prospects for the 2004 U.S. crop. The marketing year average farm price is expected to be near \$6.75 comparable to the average in the mid-1990s and well above that of recent years.

Smallest U.S. Crop in Seven Years

The USDA currently forecasts the 2003 U.S. soybean crop at 2.468 billion bushels, 175 million bushels below the September forecast and 394 million below the August forecast. The decline in the projected size of the crop since August (14 percent) is similar to the decline that occurred in

1983 (18 percent). The decline in 1983 mostly occurred in September (Table 1). Other than the current year and 1983, the largest declines in the soybean production forecast from August to October was 7 percent in 1976 and 6 percent in 1999. The current production forecast is 281 million bushels smaller than the 2002 crop and represents the smallest U.S. crop since 1996.

The U.S. average soybean yield is projected at 34 bushels per acre, 2.4 bushels and 5.4 bushels below the September and August forecasts, respectively (Table 2). The projected yield is 4 bushels below the 2002 average and represents the lowest yield since 1993. Compared to the 2002 averages, the largest yield declines are expected in Iowa (14 bushels), Wisconsin (14 bushels), Minnesota (11.5 bushels), Missouri (6 bushels), and Illinois (6 bushels). Of the 29 states for which USDA makes projections, average yields are expected to be below last year's average in 12 states. Large increases are expected in some eastern and southeastern states.

Historically, the November soybean yield forecast has not varied substantially from the October forecast. Since 1973, a difference of one bushel or more occurred in only five years (1984, 1990, 1992, 1993 and 1994). The November yield forecast was below the October forecast in nine of the past 30 years. In 1983, the average yield forecast increased in November, the January estimate was above the November forecast, and the final estimate (January 1985) was even larger.

The 1983 crop was 119 million bushels (8 percent) larger than the October forecast. At this juncture, there is little basis for expecting the 2003 crop to be significantly larger or smaller than the October forecast.

Consumption Must Decline

The higher soybean and soybean product prices in the spring of 2003 along with a record large South American crop resulted in a slow down in the rate of consumption of U.S. soybeans. The domestic crush during the summer of 2003 was 18.7 million bushels (5 percent) below the crush in the previous year, continuing a slow down that began in the first quarter of the 2002-03 marketing year (Table 3). Exports of U.S. soybeans were record large in the second quarter of the year, remained large in the third quarter, but were at a five year low in the last quarter of the year. Still, marketing year exports were second in size only to last year's shipments. China accounted for 15 percent of U.S. exports in 2001-02 and 26 percent in 2002-03, replacing the European Union as the largest importer of U.S. soybeans. China was also the largest importer of soybeans from all origins, accounting for 32 percent of world imports. Crush and exports of U.S. soybeans during the 2002-03 marketing year totaled 2.661 billion bushels, 103 million below the record use of the previous year.

Residual (unexplained) use of soybeans during the 2002-03 marketing year was very small at 41 million bushels, about 35 million less than normal. The 2002 U.S. crop may have been larger than the current estimate of 2.749 billion bushels, even though the estimate was increased by nearly 20 million bushels in September 2003. Stocks at the end of the 2002-03 marketing year totaled 169 million bushels, more than the 135 to 150 million bushels projected for much of the previous year.

With a crop of 2.468 billion bushels, consumption of U.S. soybeans will have to be reduced significantly during the current marketing year. Assuming that year ending stocks cannot be reduced below about 120 million bushels, only 2.524 billion bushels of U.S. soybeans are available for use of this year. That is 277 million

less than consumed last year. However, if last year's consumption (residual use) and production have been under estimated, available supplies may be down by as much as 300 million bushels this year. The USDA projects another small residual use for the current year, 45 million bushels, implying there are 2.479 billion bushels available for seed, crush, and exports. With seed use of about 90 million bushels, only 2.389 billion bushels are available for crush and export. However, if residual use is actually near 75 million bushels, only 2.359 billion bushels are available for crush and export. That is 302 million bushels (11 percent) less than used in those two categories last year. In the short crop years of 1983 and 1988, combined crush and exports were reduced by 14 and 20 percent, respectively. The average marketing year farm price of soybeans was \$7.83 in 1983-84, \$2.12 above the average during the previous year. The average price in 1988-89 was \$7.42, \$1.54 above the average of the previous year. It could be argued that prices were higher than needed in both those years because year ending stocks remained well above pipeline levels.

The needed rationing of soybean supplies during the current marketing year is significant, particularly in the face of what appears to be strong export demand from China. How high prices have to go to accomplish the rationing depends on the strength of domestic and world demand for soybean meal and oil and on the size of the supply of soybeans and other oilseeds from other origins. The USDA currently projects 2003-04 oilseed production outside of the U.S. at 270 million tons, 10 percent larger than last year's production (Table 4). Of the 24.8 million ton increase, 11.4 million tons is from a larger soybean production forecast. At 2.205 billion bushels, the USDA's 2004 Brazilian crop forecast is 276 million bushels, or 14 percent, larger than the 2003 crop. Production in Argentina is projected to increase by 56 million bushels (4 percent). Production in Paraguay is expected to be up 13 million bushels and the Chinese crop is projected to be down by 12 million bushels (Table 5).

The larger South American crop is expected to come from a 10 percent increase in area and a repeat of last year's record yields (Table 6). South American soybean area is projected at 35.75 million hectares, or about 88.3 million acres, and the average yield is projected at 42 bushels per acre. Since the latest expansion phase began in 1997, the projections for 2004 represent an 86 percent increase in soybean area and a 150 percent increase in production in South America. The USDA projection for the 2004 South American crop appears to be a little optimistic at this point, but the planting and growing season has just begun. The early discussion centers around some regional dryness, but that is not uncommon for this time of year. All eyes will be on the development of that crop over the next four months.

Consumption Pace Starts Fast

In addition to focusing on South American crop progress, the soybean market will carefully monitor the rate of consumption of the U.S. crop for evidence that declines are occurring. Weekly export inspection and weekly export sales reports from the USDA and monthly crush reports from the Census Bureau are the primary sources of public information on the rate of use of the crop. In addition, USDA reports that monitor livestock and poultry numbers will be watched carefully for signs of reduced feed demand.

Export data from the USDA is currently available through October 16, the first 6.5 weeks of the 2003-04 marketing year. Export inspections during that period were reported at 81.9 million bushels, about 1 percent less than during the same period last year. Unshipped sales as of October 9, 2003 were reported at 380 million bushels, compared to 270 million on the same date last year. Sales of 42 million bushels were reported for the week ended October 9. Importers have been buying aggressively since the release of the USDA's September production forecast. Unshipped sales to China total 74 million bushels, up from 54 million on the same date last year. The European Union, South Korea, Japan, and Mexico all have been buying U.S. soybeans more aggressively than in the fall of 2002. Unshipped

sales to unknown destinations (not yet reported) stood at 116 million bushels, up from 74 million at this time last year.

The 2003-04 marketing year for soybean meal and oil began on October 1. Unshipped sales of meal, at 2.1 million tons, are 30 percent larger than sales of a year ago. At 256 thousand pounds, unshipped sales of soybean oil are down about 20 percent from sales of a year ago. The pace of soybean export sales and shipments, relative to that of a year ago, will have to show significantly due to reduced supplies. The current inverse price structure encourages end users to defer use as much as possible.

The Census Bureau estimate of the U.S. crush during September 2003 has not yet been released, but the estimate from the National Oilseed Processors Association indicates that the crush of member companies was nearly 3 percent larger than the crush of a year ago. As in the case of exports, that rate (seasonally adjusted) will likely have to decline significantly over the next 10 months. The projected level of use of soybeans, both crush and exports, is a statement of availability. Exports are expected to decline relatively more than the domestic crush since domestic meal and oil demand is fairly price inelastic and larger South American soybean supplies are expected to be available to meet world demand. The USDA projects a 6.6 percent reduction in the domestic crush and a 16.7 percent reduction in exports (Table 7). If residual use is underestimated and the crop is not larger than the current forecast, the reduction will have to be even larger.

The smaller domestic crush is expected to result in a 2.8 percent reduction in domestic meal use, following a 2.6 percent reduction last year. Two consecutive years of reduction is unprecedented in recent history (Table 8). Meal exports, at 5 million tons, are expected to drop by 17 percent, to the lowest level in 19 years and imports are projected at 340,000 tons. Domestic oil consumption is projected to decline by 2.4 percent, the first year over year decline in 10 years. Oil exports are projected at 850 million pounds, 60 percent less than exported last year.

and the smallest annual shipment in 13 years (Table 9).

Price Prospects

The 2003-04 marketing year is one of those rare years when consumption of U.S. soybeans must be reduced. It is a "short crop" year. In general, we have come to expect that prices will reach a marketing year high early in short crop years, forcing a reduction in use, and then decline into the following year as production rebounds to a more normal level.

This year, November 2002 soybean futures traded to about \$5.10 in late July on expectations of a crop near 3 billion bushels. The price of that contract moved to about \$5.30 in front of the USDA's August production forecast, jumped to \$5.50 following the smaller than expected USDA crop forecast, and moved to near \$6.00 before the September forecast on the basis of a hot, dry August. The price moved to \$6.25 following the small September forecast, rallied to \$7.00 in early October as small yield reports filtered in, and then increased to \$7.45 following the USDA's October crop forecast. The November contract reached the highest level since November 1997 futures hit \$7.50 in March 1997. The average spot cash price (overnight bid) in central Illinois reached \$7.24 on October 14, the highest price in about six years.

The average price of soybean meal at central Illinois plants in September 2003 was \$217.25 per ton, the highest since December 1998. A daily high of \$222 was reached on October 14. Similarly, the average price of soybean oil in September was \$23.22 per hundred weight, also the highest since December 1998. The daily high reached \$28.60 on October 13.

Soybean and soybean product prices are expected to remain relatively high, but in a more sideways pattern for the next few weeks, and perhaps through the end of the year. The size of the November U.S. production forecast, the rate of consumption, and the progress of the South American crop will all be important in determining if prices need to go higher. A record large inversion in the price structure developed in mid-October, with July 2004 futures trading nearly \$1.00 lower than November 2003 futures. That inversion is currently near \$.75. Clearly, the market is trying to encourage producer sales and discourage consumption in the short run. The magnitude of the inversion also reflects current expectations of a very large South American harvest in 2004. The USDA forecasts the marketing year average price in a range of \$6.05 to \$6.95. Current spot cash prices are above the upper end of that range.

Unless South American crop prospects deteriorate, the highest prices of the marketing year may well occur before the end of the calendar year. Spreading sales of unpriced soybeans over the next two months seems like a prudent strategy. It is a little risky to be out of the market so early, however, with the uncertainty surrounding the South American crop and the 2004 U.S. crop. If re-ownership appears warranted later, that could be accomplished with futures or options contracts.



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Table 1. United States Soybean Production Estimates

	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
	million bushels																								
August 1	2,130	1,880	2,017	2,293	1,843	2,035	1,959	1,979	2,000	1,474	1,905	1,836	1,869	2,079	1,902	2,282	2,246	2,300	2,744	2,825	2,870	2,989	2,867	2,628	2,862
September 1	2,174	1,831	2,089	2,314	1,535	2,028	2,063	1,980	1,957	1,472	1,889	1,835	1,817	2,085	1,909	2,316	2,285	2,270	2,746	2,909	2,778	2,900	2,834	2,656	2,643
October 1	2,213	1,757	2,107	2,300	1,517	1,972	2,108	1,992	1,968	1,501	1,926	1,823	1,934	2,108	1,891	2,458	2,190	2,346	2,722	2,769	2,696	2,823	2,907	2,654	2,468
November 1	2,236	1,775	2,077	2,300	1,535	1,902	2,129	2,009	1,960	1,512	1,937	1,904	1,962	2,167	1,834	2,523	2,183	2,403	2,736	2,763	2,673	2,777	2,923	2,690	
January 1	2,268	1,817	2,030	2,277	1,595	1,861	2,099	2,007	1,905	1,539	1,927	1,922	1,986	2,197	1,809	2,558	2,152	2,382	2,727	2,757	2,643	2,770	2,891	2,730	
FINAL	2,261	1,798	1,989	2,190	1,636	1,861	2,099	1,943	1,938	1,549	1,924	1,926	1,987	2,190	1,870	2,515	2,174	2,380	2,689	2,741	2,654	2,758	2,891	2,749	

Table 2. United States Soybean Yield Estimates

	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
	million bushels																								
August 1	30.3	27.4	30.2	32.3	29.7	30.5	31.5	32.9	34.7	26.0	32.3	32.5	31.8	35.8	33.8	37.6	36.4	36.3	39.5	39.5	39.2	40.7	38.7	36.5	39.4
September 1	30.9	27.0	31.2	32.6	24.9	30.3	33.2	33.1	34.0	25.9	32.0	32.4	31.0	35.9	34.0	38.2	37.0	35.8	39.3	40.6	37.9	39.5	38.2	37.0	36.4
October 1	31.5	26.0	31.5	32.4	24.7	29.5	33.9	33.3	34.2	26.4	32.6	32.3	33.0	36.3	33.7	40.5	35.5	37.0	39.0	38.7	37.0	38.7	39.2	37.0	34.0
November 1	31.8	26.5	31.0	32.4	25.0	28.5	34.2	33.8	34.1	26.6	32.8	33.7	33.5	37.3	32.7	41.5	35.4	37.9	39.2	38.6	36.7	38.0	39.4	37.5	
January 1	32.2	26.8	30.4	32.2	25.7	28.2	34.1	33.8	33.7	26.8	32.4	34.0	34.3	37.6	32.0	41.9	34.9	37.6	39.0	38.9	36.5	38.1	39.6	37.8	
FINAL	32.1	26.5	30.1	31.5	26.2	28.1	34.1	33.3	33.9	27.0	32.3	34.1	34.2	37.6	32.6	41.4	35.3	37.6	38.9	38.9	36.6	38.1	39.6	38.0	

Table 3. Soybean Quarterly Balance Sheet

	1982-83	1983-84	1984-85	1985-86	1986-87	1987-88	1988-89	1989-90	1990-91	1991-92	1992-93	1993-94	1994-95	1995-96	1996-97	1997-98	1998-99	1999-00	2000-01	2001-02	2002-03
	million bushels																				
September 1 stocks	254.5	344.6	175.7	316.1	536.4	436.4	302.5	182.0	239.1	329.0	278.4	292.3	209.1	334.8	183.5	131.8	199.8	348.5	290.2	247.7	208.0
Production	2,190.3	1,635.8	1,860.9	2,099.1	1,942.6	1,937.7	1,548.8	1,923.8	1,925.9	1,986.6	2,190.4	1,869.7	2,514.9	2,174.3	2,380.3	2,688.8	2,741.0	2,653.8	2,757.8	2,890.6	2,749.3
TOTAL	2,444.8	1,980.4	2,036.6	2,415.2	2,479.0	2,374.1	1,855.3	2,108.8	2,167.0	2,319.6	2,470.8	2,167.0	2,730.0	2,514.1	2,572.8	2,825.6	2,943.8	3,006.3	3,052.0	3,141.3	2,961.3
September-November																					
Crush	284.2	269.6	253.7	267.5	295.8	293.4	275.4	273.0	304.1	322.0	328.2	329.6	346.2	351.4	360.6	395.8	409.3	426.7	420.9	427.5	417.5
Export	245.9	190.6	153.4	166.5	216.5	260.8	138.3	168.5	120.1	167.1	235.9	176.0	230.9	233.6	289.7	365.3	288.5	297.8	315.5	348.6	316.4
Seed, residual	-36.2	48.5	14.8	21.5	10.1	64.6	74.8	56.6	58.8	51.5	70.7	79.8	50.9	95.7	97.4	66.9	78.5	98.9	75.6	89.6	113.8
TOTAL	493.9	508.7	421.9	455.4	522.4	618.8	488.5	498.1	483.0	540.6	634.8	585.4	628.0	681.7	747.7	826.2	758.8	823.4	812.0	865.7	847.7
December 1 stocks	1,950.9	1,471.7	1,614.7	1,959.8	1,956.6	1,755.3	1,366.8	1,610.7	1,684.0	1,779.0	1,836.0	1,573.6	2,102.0	1,833.4	1,825.1	1,999.4	2,186.0	2,182.9	2,240.0	2,275.6	2,113.6
Crush	314.9	262.5	276.4	281.9	320.1	317.3	286.3	304.3	301.4	323.1	335.2	327.2	371.8	359.0	400.7	443.1	408.6	408.1	417.9	447.6	422.0
Export	263.6	234.6	230.2	270.9	233.7	258.9	197.0	217.0	179.7	259.6	255.9	212.7	283.5	278.7	333.1	306.4	243.1	315.4	338.4	422.7	429.9
Seed, residual	26.6	18.8	47.0	35.7	63.8	33.0	-6.7	33.9	12.8	19.6	29.3	12.1	76.5	5.3	35.5	46.9	77.0	63.2	79.8	69.3	60.7
TOTAL	605.1	515.9	553.6	588.5	617.6	609.2	476.6	555.2	493.9	602.3	620.4	552.0	731.8	643.0	769.3	796.5	728.7	786.7	836.1	939.6	912.6
March 1 stocks	1,345.8	955.8	1,061.1	1,371.3	1,339.0	1,146.1	890.2	1,055.5	1,190.1	1,177.3	1,215.6	1,021.6	1,370.2	1,190.4	1,055.8	1,202.9	1,457.3	1,396.0	1,403.9	1,336.0	1,201.0
Crush	260.1	240.0	258.2	262.3	297.2	308.3	270.1	290.7	295.5	304.0	325.4	320.4	361.7	334.0	355.7	404.9	396.4	373.9	405.4	429.6	400.2
Export	216.2	204.2	153.4	226.4	159.3	185.0	135.5	153.2	146.9	148.2	186.7	120.6	216.6	188.5	165.9	120.0	161.9	205.8	220.8	155.0	196.4
Seed, residual	78.9	39.9	41.1	33.7	45.7	-2.5	20.1	15.7	24.2	29.4	20.1	25.3	0.0	44.9	34.3	84.4	50.4	58.9	69.5	66.5	2.0
TOTAL	555.2	484.1	452.7	522.4	502.2	490.8	425.7	459.6	466.6	481.6	532.2	466.3	578.3	567.4	555.9	609.2	608.7	621.8	695.7	651.1	598.6
June 1 stocks	790.6	471.7	608.4	848.9	836.8	655.3	464.5	595.9	723.5	695.7	683.4	555.3	791.9	622.8	499.9	593.7	848.6	774.4	708.2	684.9	602.4
Crush	248.8	210.6	242.1	241.1	265.5	255.5	225.8	278.4	285.9	304.6	290.0	298.4	325.5	324.9	318.7	353.2	375.4	370.1	395.8	395.0	376.3
Export	179.5	113.6	61.1	76.3	147.4	97.6	56.2	84.2	110.4	109.0	91.0	79.7	107.0	150.5	93.0	78.7	127.5	171.6	121.3	137.2	102.5
Seed, residual	17.7	-28.2	-10.9	-4.9	-12.5	0.3	0.5	-5.8	-1.8	3.1	10.1	-31.9	24.6	-35.2	-43.6	-37.9	-1.3	-55.0	-56.6	-55.3	-45.8
TOTAL	446.0	296.0	292.3	312.5	400.4	352.8	282.5	356.8	394.5	416.7	391.1	346.2	457.1	439.6	368.1	393.9	501.6	486.7	460.5	476.9	433.0
September 1 stocks	344.6	175.7	316.1	536.4	436.4	302.5	182.0	239.1	329.0	278.4	292.3	209.1	334.8	183.5	131.8	199.8	348.5	290.2	247.7	208.0	169.4
Annual																					
Crush	1,108.0	982.7	1,030.4	1,052.8	1,178.7	1,174.5	1,057.6	1,146.4	1,186.9	1,253.7	1,278.8	1,275.6	1,405.2	1,369.4	1,435.7	1,595.1	1,589.7	1,578.8	1,650.0	1,699.7	1,616.0
Export	905.2	743.0	598.1	740.1	756.9	801.7	527.0	622.9	557.1	683.9	769.5	589.0	838.0	851.2	881.7	870.4	801.0	973.8	996.0	1,063.5	1,045.2
Seed, residual	87.0	79.0	92.0	85.9	107.0	95.4	88.7	100.4	94.0	103.6	130.2	85.3	152.0	110.4	123.6	160.3	204.6	166.2	168.3	170.1	130.7
TOTAL	2,100.2	1,804.7	1,720.5	1,878.8	2,042.6	2,071.6	1,673.3	1,869.7	1,838.0	2,041.2	2,178.5	1,949.9	2,397.0	2,330.9	2,441.0	2,625.8	2,595.3	2,718.8	2,803.10	2,933.3	2,791.9

Table 4. World Oilseed and Soybean Production

Year	Major Oilseeds			Soybeans		
	United States	Ex-United States	Total	United States	Ex-United States	Total
million metric tons						
1977-78	56.5	93.7	150.2	47.95	23.98	71.93
1978-79	58.6	92.0	150.6	50.86	26.62	77.48
1979-80	72.4	98.1	170.5	61.72	31.79	93.51
1980-81	55.8	99.8	155.6	48.77	32.20	80.97
1981-82	64.0	105.5	169.5	54.13	31.93	86.06
1982-83	68.2	110.1	178.3	59.61	33.96	93.57
1983-84	50.4	115.1	165.5	44.52	38.64	84.16
1984-85	59.2	131.7	191.1	50.64	42.50	93.14
1985-86	65.4	130.8	196.2	57.13	39.92	97.05
1986-87	59.4	135.0	194.4	52.87	45.21	98.08
1987-88	60.6	150.0	210.6	52.75	51.06	103.81
1988-89	50.3	153.9	204.2	42.15	53.49	95.64
1989-90	59.3	153.1	212.4	52.35	55.02	107.37
1990-91	60.6	155.1	215.7	52.42	51.57	103.99
1991-92	64.3	160.0	224.3	54.07	53.31	107.38
1992-93	68.4	158.9	227.4	59.61	57.69	117.30
1993-94	59.5	168.4	227.9	50.92	66.58	117.50
1994-95	79.7	181.2	260.9	68.49	69.14	137.63
1995-96	69.1	190.6	259.7	59.24	65.72	124.96
1996-97	74.8	187.0	261.8	64.78	67.40	132.18
1997-98	83.1	203.9	287.0	73.18	84.90	158.07
1998-99	84.4	210.3	294.7	74.60	85.21	159.81
1999-00	82.3	221.1	303.4	72.22	87.68	159.90
2000-01	84.9	228.5	313.4	75.06	100.00	175.06
2001-02	89.8	234.6	324.4	78.67	105.75	184.42
2002-03	83.8	245.2	328.9	74.83	121.53	196.36
2003-04	76.7	270.0	346.8	67.18	132.97	200.15

¹WASDE Oct. 2003 and earlier.

Table 5. Soybean Production by Country

Year	United States	Brazil ^a	Argentina ^a	Paraguay ^a	China	Other	World	All Foreign
million bushels								
1970	1,127	76	2	3	254	165	1,627	500
1971	1,176	135	3	4	290	126	1,734	558
1972	1,283	184	10	4	320	66	1,867	584
1973	1,547	289	18	7	367	64	2,292	745
1974	1,215	363	18	8	349	54	2,007	792
1975	1,547	413	26	10	367	46	2,409	862
1976	1,288	460	51	14	242	128	2,183	895
1977	1,762	350	99	12	266	154	2,643	881
1978	1,870	557	136	20	278	167	2,847	977
1979	2,261	376	132	21	274	191	3,255	994
1980	1,798	558	129	22	292	176	2,975	1,177
1981	1,989	471	152	22	342	186	3,162	1,173
1982	2,190	542	154	19	332	200	3,437	1,247
1983	1,636	571	257	20	359	213	3,056	1,420
1984	1,861	672	248	35	356	248	3,421	1,561
1985	2,099	518	268	22	386	272	3,565	1,466
1986	1,943	636	257	35	427	303	3,601	1,658
1987	1,938	662	356	40	457	359	3,812	1,874
1988	1,549	852	235	60	428	387	3,506	1,957
1989	1,924	747	395	58	376	445	3,945	2,020
1990	1,926	579	423	48	404	446	3,826	1,900
1991	1,987	709	410	48	357	435	3,946	1,959
1992	2,188	827	417	64	378	434	4,308	2,120
1993	1,871	908	456	66	563	454	4,318	2,447
1994	2,517	952	459	81	588	460	5,057	2,540
1995	2,177	887	457	88	496	487	4,591	2,415
1996	2,380	1,003	412	102	486	474	4,857	2,477
1997	2,689	1,194	717	110	551	545	5,806	3,117
1998	2,741	1,150	735	112	557	577	5,872	3,131
1999	2,654	1,257	779	107	525	527	5,875	3,221
2000	2,758	1,433	1,021	129	566	525	6,432	3,674
2001	2,891	1,598	1,102	114	566	505	6,776	3,885
2002	2,749	1,929	1,304	143	607	482	7,215	4,466
2003	2,468	2,205	1,360	156	595	570	7,354	4,886

^a Harvested in the spring of the following year.

Table 6. South American Soybean Area, Yield and, Production, 1988 to Date

Year	Brazil			Argentina			Paraguay		
	Area	Yield	Production	Area	Yield	Production	Area	Yield	Production
	mil. ha.	t/ha.	mil.t	mil. ha.	t/ha.	mil. t.	mil. ha.	t/ha.	mil. t.
1988-89	12.15	1.94	23.60	4.00	1.63	6.50	0.85	1.90	1.62
1989-90	11.55	1.76	20.34	4.95	2.17	10.75	0.98	1.61	1.58
1990-91	9.75	1.62	15.75	4.75	2.42	11.50	0.89	1.46	1.30
1991-92	9.70	1.99	19.30	4.80	2.32	11.15	0.90	1.44	1.30
1992-93	10.63	2.12	22.50	4.90	2.32	11.35	0.98	1.79	1.75
1993-94	11.44	2.16	24.70	5.40	2.30	12.40	1.05	1.71	1.80
1994-95	11.68	2.22	25.90	5.70	2.19	12.50	1.10	2.00	2.20
1995-96	10.95	2.21	24.15	5.98	2.08	12.43	1.10	2.18	2.40
1996-97	11.80	2.27	26.80	6.26	1.81	11.20	1.20	2.31	2.77
1997-98	13.00	2.50	32.50	6.95	2.80	19.50	1.20	2.49	2.99
1998-99	12.90	2.43	31.30	8.17	2.45	20.00	1.20	2.54	3.05
1999-00	13.60	2.51	34.20	8.58	2.47	21.20	1.15	2.52	2.90
2000-01	13.93	2.80	39.00	10.40	2.67	27.80	1.35	2.61	3.52
2001-02	16.35	2.66	43.50	11.40	2.63	30.00	1.42	2.18	3.10
2002-03	18.40	2.85	52.50	12.60	2.80	35.50	1.45	2.69	3.90
2003-04	21.00	2.86	60.00	13.20	2.80	37.00	1.55	2.74	4.25

Source: USDA, FAS

Table 7. Soybean Balance Sheet -- Years Beginning September 1

	1989-90	1990-91	1991-92	1992-93	1993-94	1994-95	1995-96	1996-97	1997-98	1998-99	1999-00	2000-01	2001-02	2002-03	2003-04 ^a
	million bushels														
Carryin	182	239	329	278	292	209	335	183	132	200	348	290	248	208	169
Production	1,924	1,926	1,987	2,190	1,870	2,515	2,174	2,380	2,689	2,741	2,654	2,758	2,891	2,749	2,468
TOTAL ^b	2,109	2,167	2,320	2,470	2,168	2,729	2,514	2,573	2,826	2,944	3,006	3,052	3,141	2,961	2,645
Crush	1,146	1,187	1,254	1,279	1,276	1,405	1,369	1,436	1,597	1,590	1,578	1,640	1,700	1,616	1,510
Export	623	557	684	770	589	838	851	882	870	805	975	996	1,063	1,045	870
Seed, feed, residual	101	94	103	129	94	151	111	123	159	201	163	169	171	131	145
TOTAL	1,870	1,838	2,041	2,178	1,954	2,394	2,331	2,441	2,626	2,596	2,716	2,804	2,933	2,792	2,525
Carryout	239	329	278	292	209	335	183	132	200	348	290	248	208	169	120
U.S. Average price	\$5.70	\$5.75	\$5.58	\$5.60	\$6.40	\$5.48	\$6.77	\$7.35	\$6.47	\$4.93	\$4.63	\$4.54	\$4.38	\$5.53	\$6.75

^a Projected

Table 8. Soybean Meal Balance Sheet -- Years Beginning October 1

	1989-90	1990-91	1991-92	1992-93	1993-94	1994-95	1995-96	1996-97	1997-98	1998-99	1999-00	2000-01	2001-02	2002-03	2003-04
	thousand tons														
Beginning stocks	173	318	285	230	204	150	223	212	210	218	330	293	383	240	256
Production	27,719	28,325	29,831	30,364	30,514	33,270	32,527	34,210	38,176	37,792	37,591	39,385	40,292	38,100	35,935
TOTAL ^a	27,982	28,688	30,183	30,687	30,788	33,483	32,825	34,524	38,443	38,109	37,970	39,729	40,818	38,500	36,525
Domestic	22,291	22,934	23,007	24,251	25,283	26,542	26,611	27,320	28,895	30,657	30,345	31,643	33,070	32,200	31,300
Exports	5,319	5,469	6,946	6,232	5,356	6,717	6,002	6,994	9,330	7,122	7,332	7,703	7,508	6,050	5,000
TOTAL	27,610	28,403	29,953	30,483	30,639	33,260	32,613	34,314	38,225	37,779	37,677	39,346	40,578	38,250	36,300
Ending stocks	318	285	230	204	150	223	212	210	218	330	293	383	240	250	225
Price ^b	\$186.48	\$181.38	\$189.21	\$193.75	\$192.86	\$162.55	\$235.92	\$270.90	\$185.28	\$138.55	\$167.70	\$173.60	\$167.73	\$182.00	\$205.00

^a Includes imports^b Bulk, Decatur, Illinois 48%

Table 9. Soybean Oil Balance Sheet -- Years Beginning October 1

	1989-90	1990-91	1991-92	1992-93	1993-94	1994-95	1995-96	1996-97	1997-98	1998-99	1999-00	2000-01	2001-02	2002-03	2003-04
	million pounds														
Beginning stocks	1,715	1,305	1,786	2,239	1,555	1,103	1,137	2,015	1,520	1,382	1,520	1,995	2,867	2,358	1,564
Production	<u>13,003</u>	<u>13,406</u>	<u>14,346</u>	<u>13,778</u>	<u>13,951</u>	<u>15,613</u>	<u>15,240</u>	<u>15,752</u>	<u>18,143</u>	<u>18,081</u>	<u>17,825</u>	<u>18,420</u>	<u>18,898</u>	<u>18,405</u>	<u>17,020</u>
TOTAL ^a	14,740	14,728	16,132	16,027	15,574	16,733	16,472	17,821	19,723	19,546	19,427	20,488	21,711	20,814	18,688
Domestic	12,082	12,163	12,246	13,053	12,941	12,916	13,465	14,263	15,262	15,655	16,056	16,210	16,833	17,000	16,600
Exports	<u>1,353</u>	<u>779</u>	<u>1,647</u>	<u>1,419</u>	<u>1,529</u>	<u>2,680</u>	<u>992</u>	<u>2,037</u>	<u>3,079</u>	<u>2,372</u>	<u>1,376</u>	<u>1,401</u>	<u>2,519</u>	<u>2,250</u>	<u>850</u>
TOTAL	13,435	12,942	13,893	14,472	14,471	15,596	14,457	16,300	18,341	18,027	17,432	17,611	19,353	19,250	17,450
Ending stocks ^b	1,305	1,786	2,239	1,555	1,103	1,137	2,015	1,520	1,382	1,520	1,995	2,867	2,358	1,564	1,218
Average Price ^b	22.3¢	21.0¢	19.1¢	21.4¢	27.1¢	27.6¢	24.75¢	22.5¢	25.8¢	19.9¢	15.6¢	14.2¢	16.5¢	22.0¢	25.5¢

^a Includes imports^b Bulk, Decatur, Illinois 44%

